

University News

MONDAY, JULY 11, 1988

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Dr. (Ms) M.D. Bengalee, Vice-Chancellor, University of Bombay, delivering the Keynote address at the National Seminar on Monitoring and Implementation of National Policy on Education organised by AIU at the University of Poona. Seated on her right are Prof. S.K. Agrawala, Secretary, AIU, Dr. L.K. Doraiswamy, Director, National Chemical Laboratory, Pune, Prof. V.G. Bhide, Vice-Chancellor and Prof. S.N. Navalgundkar, Pro-Vice-Chancellor of the University.

ANDHRA PRADESH AGRICULTURAL UNIVERSITY

ADMINISTRATIVE OFFICE : RAJENDRANAGAR : HYDERABAD-500030

ADMISSION NOTIFICATION

Applications are invited for admission to the following Degree Courses for the Academic year 1988-89 :

PART-I

- | | |
|----------------------|----------------------------|
| (i) B.V.Sc. & A.H. | (ii) B.Sc. (Agri.) |
| (iii) B.Sc. (Horti.) | (iv) B.Sc. (Home Science). |

PART-II

- (i) B. Tech. (Agricultural Engineering)
- (ii) B. Sc. (Dairy Technology).

Candidates wishing to apply for one or more courses under Part-I need submit only one application indicating their preferences. Similarly those wishing to apply for one or both the courses under Part-II, need submit only one application. Separate applications are prescribed for Courses under Part-I and Part-II.

The criterion for consideration for Admission to the Courses mentioned above is the rank obtained at the Engineering, Agricultural and Medical Common Entrance Test, 1988 (EAMCET-88) conducted by the Convenor, EAMCET-88, Sri Venkateswara University, Tirupati on 5-6-88 and a pass in the Intermediate Examination or its Equivalent. Further details can be had from the Prospectus.

Applications together with Prospectus can be had from the Principals of (1) the Agricultural College, Bapatla, Guntur District; (2) College of Veterinary Science, Tirupati, Chittoor District, (3) College of Veterinary Science, Rajendranagar, Hyderabad-500-030; (4) College of Home Science Saifabad, Hyderabad and at the University's Agricultural Research Stations at WARANGAL, NANDYAL (Kurnool Dist.) and ANAKAPALLI (Visakhapatnam District).

Sale of application forms will commence from 11-7-88 on payment of Rupees fifteen in person or on payment of Rs. 20.00 (inclusive of postal charges) through a crossed Demand Draft drawn from any branch of Andhra Bank or State Bank of Hyderabad in favour of the COMPTROLLER, A. P. AGRICULTURAL UNIVERSITY, RAJENDRANAGAR. No postal orders will be accepted. Information as to whether they desire to apply for Courses under Part-I or under Part-II must be clearly given in the requisition letters.

Requisitions for supply of forms by post will not be accepted after 21-7-88.

All Applications duly filled in should reach the Office of the Registrar, Administrative Office, Andhra Pradesh Agricultural University, Rajendranagar, Hyderabad-500 030 on or before 28-7-1988. Postal delays will not be condoned.

K.M. Azam
REGISTRAR

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Editor :

SUTINDER SINGH

Medium of Instruction in Higher Education Regional Language vis-a-vis English— The Indian Dilemma

Bh. Krishnamurti*

Assumptions About Language Development

As a linguist and as a sociologist of language, I would like to present certain assumptions about language development which are either tested or testable with empirical data from ancient or modern societies.

(i) There are primitive societies but no primitive languages. Almost all languages are equipped with necessary structures optimal to handle any domain of human communication.

(ii) A language besides being a vehicle of communication is also a cultural institution which is an integral part of the social, emotional and intellectual life of its speakers. Living languages with centuries-old literary traditions cannot easily be relegated to a secondary status by other languages in a given society.

(iii) A language develops appropriate registers (i.e., styles and terminologies) in new domains, if its speakers make an effort in an appropriate manner. Language development and language use go hand in hand: one does not precede or follow the other. A language is as good or as bad as its users make it to be.

(iv) Language development in new domains occurs if and only if necessary and sufficient conditions are created (by planners and policy makers) for its uninhibited use (by its speakers) for a considerable period of time. This means that any normative measures taken for language development turn out to be counter-productive.

(v) Standardization of styles and terminology should follow and not precede the extensive use of a language in domains in which it has not been used earlier.

(vi) Language development and vitality are measured in terms of the range of domains in which it can be used effectively, viz., socialization, education, government, courts, trade, industry, defence, managerial decision-making, etc. Such domains can be covered by more than one language used complementarily.

(vii) Language development is central to educational advancement on a mass scale. Educational development is central to economic, cultural, and political development. Language development, therefore, is a corollary to national development.

(viii) There is hardly a nation which is economically and industrially advanced based on education exclusively imparted through the medium of a foreign language.

[Paper presented at the 14th Quinquennial Universities Congress, 1988].

**Vice-Chancellor, University of Hyderabad, Hyderabad 500 134.*

Language Medium in Education in India till 1947

By the time India became independent in 1947, the question of the medium of instruction was resolved and a state of stability had prevailed for at least three decades, ending a century old controversy. Except for a very few schools (meant for the English nationals and wealthy Indians), the medium of instruction was the dominant regional language/mother tongue from the primary to the high school level. English was taught as a subject from the V or VI standard. At the levels of the intermediate, the degree college, and the university, English was the medium of instruction for all subjects except for modern Indian languages or classical languages taught as subjects. A century long controversy which started in the early nineteenth century ended with the above scheme emerging as the most satisfactory model by the 1920's. This was further stabilized during the period of diarchy and provincial autonomy.

A brief review of the controversy would be interesting and revealing. The orientalist wanted the revival and improvement of oriental learning through the medium of classical languages, Sanskrit and Persian. The Anglicists wanted the European knowledge of science, letters and philosophy being taught to the natives in English. The vernacularists claimed the rightful place for vernacular languages as the media of instruction so that modern knowledge could reach the masses. A great social reformer and an oriental scholar, Raja Ram Mohan Roy (1824), supported the dissemination of European knowledge through English. A considerable number of English scholars, missionaries and civil servants along with their Indian cohorts participated in the controversy.

The Anglicists won the day when Lord William Bentinck issued his Resolution on March 7, 1835 that all funds be utilized only on English education, based on the celebrated minute of Thomas Babington Macaulay (on February 2, 1835). The following quotation from the minute was both forceful and prophetic :

"We must at present do our best to form a class who may be interpreters between us and the millions whom we govern... a class of persons, Indian in blood and colour but English in tastes, in opinions, in morals and in intellect".

If we pardon Macaulay's impertinence in calling the vernacular languages as "poor and rude" and denigrating the wealth of scientific literature in Sanskrit, he has practically inaugurated the introduc-

tion of English education in India through the English language. Brian Houghton Hodgson, a civil servant of the Company, supported by John Wilson, a great missionary scholar of Bombay, championed the cause of the vernacular languages. The controversy continued until the Education Dispatch of 1854 from the Court of Directors to the Governor General of India, named after Sir Charles Wood, the President of Control. The Dispatch forcefully directed the Government to promote the use of vernacular languages as media of instruction in education to cater to the middle and lower strata of the society. This Dispatch is a landmark in the use of vernacular languages in education. However, the recommendations were not implemented with sincerity for the next seven decades.

After the Mutiny of 1857, the administration of India was transferred to the British Crown. Even by 1882, over 60% of primary schools still had English as the medium of instruction. It was Lord Curzon's (1898-1905) educational policy, coupled with the national movement, that brought about sweeping changes in the medium of education in the early part of this century. In his speeches Viceroy Curzon said (some excerpts) :

"Eversince the cold breath of Macaulay's rhetoric passed over the field of Indian languages and Indian textbooks, the elementary education of the people in their own tongue has shrivelled up and pined".

"The main obstacle which primary education has to contend with springs from the people themselves. As they rise in the social scale, they wish their children to learn English".

"By all means, let English be taught to those who are qualified to learn it, but let it rest upon a solid foundation of the indigenous languages, for no people will ever use another tongue with advantage that cannot first use its own with ease".

"Unless a good training in the vernacular is given in the schools, no effort of the University will avail".

The Resolution on the Educational policy of the Government of India (February 21, 1913) was a significant pronouncement which led to the establishment of vernacular schools from primary to the secondary level. It observes :

"There is much experience to the effect that scholars who have been through a complete

vernacular course are exceptionally efficient mentally."

A commission under the Chairmanship of Sir Michael Sadler was set up in 1917 to inquire into the affairs of the Calcutta University in particular and the crucial problems of education in general. The report gave a serious thought to the medium problem and observes :

"We are emphatically of opinion that there is something unsound in a system of education which leaves a young man, at the conclusion of his course, unable to speak or write his own mother tongue fluently and correctly. It is thus beyond controversy that a systematic effort must henceforth be made to promote the serious study of the vernaculars in secondary schools, intermediate colleges and in the university."

This resulted in restricting the medium of English only to the college and university stage from 1920's onwards throughout the country.

Post-1947 Scenario of the Medium of Instruction

When the colonial countries became independent, a major problem that they had to tackle was finding a national language both as a symbol of national spirit and solidarity and also as a lingua franca. While it was easier for smaller nation states to find such a language (e.g. Pakistan, Burma and Sri Lanka), in countries with diverse ethnic populations of sizeable numbers with different languages, the problem became quite difficult and complex. It is not possible to compare any two countries in the complexity of their problems. The African States and India have multilingual and multiethnic populations which cannot be served by a single language as a lingua franca. The situation in India is easier since it has 14 major modern Indian languages most of which are spoken in different geographical regions whose boundaries can be marked.

The Constitution of India, adopted in 1950, recognises 15 languages as the languages of India included in the VIII Schedule (14 modern Indian languages and Sanskrit, a classical language). English continues as an associate official language along with Hindi, which is the recognised official language of the country. The major Indian languages are spoken by 87% of the population (according to the 1971 census). Linguistic states were formed in 1956. The

University Education Commission Report of 1949 suggested, among other things, that 'English be replaced, as early as practicable, by an Indian language as the medium of instruction of higher education'. The Education Commission (1964-66), in no uncertain terms, discussed the medium question and proposed that the mother tongue (regional language) should be used upto the highest level for instruction and examination, but English should be taught both as a subject and as a library language at higher levels.

The above policy was implemented in a haphazard manner with many States adopting the regional language as an optional medium besides English upto the undergraduate level in Arts and Sciences. But professional courses (like Engineering, Medicine, etc.) continue to be in English at all levels. The optionality of medium gave rise to two streams of students, those with the English medium having a definite advantage over the regional language medium students, both in employment and in postgraduate education. Students from regional language medium have found it difficult to switch over to English at the postgraduate level. Therefore, instead of becoming an advantage, the regional language medium, in almost all cases, became a handicap to those who had opted for it. This trend has led to a greater importance being given to English medium right from the primary stage. The trend during the past two decades has tilted in favour of English and English medium primary schools have cropped up as mushrooms in both urban and rural areas with inadequately prepared teachers. Children coming out of such schools have a poorer knowledge of and exposure to the mother tongue, and this has made them culturally alienated and their cognitive development is also stunted.

The Commonwealth Universities Yearbook 1987 (Vol. 3) provides information about the medium of instruction for only some universities. Of the 154 institutions listed in the Yearbook, there are 8 Central Universities, 5 Indian Institutes of Technology, 25 Professional (Agriculture, Technology, etc.) Universities/Institutes, 20 "Deemed to be Universities" and Institutions of National Importance and 96 multifaculty Universities.

The medium of instruction as could be gathered

from the Yearbook for each group of institutions is as follows :

Institutions	No.	Medium of Instruction
1. Central Universities	8	English ¹
2. Indian Institutes of Technology	5	English
3. Professional Universities/Institutions :	25	Not stated for most ²
Agricultural Universities	22	
Gujarat Ayurved Univ.	1	
J.N. Technological Univ.	1	
Indira Kala Sangit Univ.	1	
4. Deemed to be Universities	20	English (for Professional Institutions), Sanskrit, Hindi English (for language institutions) ³ .
5. Multifaculty Universities	96	English at postgraduate level and regional language as optional medium at the undergraduate level.
Total	154	

Out of the 96 of the last category the Yearbook has no information on the medium of instruction for 33 universities, viz. Agra, Doctor Harisingh Gour, Jamia Millia, Lucknow, Utkal, Amravati, Bhavnagar, Bihar, Cochin, Devi Ahilya, Gandhiji, Garhwal, Goa, Gorakhpur, Gulbarga, Guru Ghasidas, Indira Gandhi National Open, Jiwaji, Kameshwara Singh, Kanpur, Kumaon, Lalit Narayan Mithila, Mangalore, Meerut, Mother Teresa, North Bengal, Ranchi, Rani Durgavati, Ravishankar, Sambalpur, Sampurnanand, Shivaji, Vidyasagar.

In its introduction on India the Commonwealth Universities Yearbook summarizes the medium of instruction question as follows :

"The issue of the medium of instruction was settled in favour of English, as explained earlier, by

1. In Viswa-Bharathi, Bengali is an optional medium in postgraduate non-professional courses.
2. Agricultural Universities have generally English as the medium of instruction.
3. Gujarat Vidyapith has Gujarati, English and Hindi.

the time the first three Universities were established in 1857. With the growth of the national movement, however, a good deal of emphasis was put on the development of Indian languages. When the Indian constitution was adopted in 1950, it provides that Hindi should be the official language of the country. For the first 15 years, however, English also was to continue as an official language. When in the mid-sixties those 15 years expired, there was a virulent anti-Hindi agitation in Tamil Nadu. Consequently both Hindi and English continue to be official languages of the country today and there is little prospect of any major change occurring in the next few years.

"In the University world, however, there has been some change. About three-quarters of the universities in the Hindi-speaking belt spread over five Indian states have switched to Hindi as the medium of instruction. This pattern has been followed with one or two other Indian languages too but the bulk of the universities continue to have English as the medium of instruction with an option given to students to use their own language also.

"Most of what is said above relates to undergraduate courses. To a lesser extent it applies also to postgraduate courses, but in professional courses English continues to be the medium of instruction as in the past. Of books written in English and published in India, about 8,000-10,000 titles a year are published. Three-quarters of them are textbooks while the remaining quarter or even less are either general books or scholarly books. On the whole, English is more popular in India today than it was in 1947."

It is true that there is a great demand for the study of English at all levels, and by the same token (the demand is outstripped by supply of qualified teachers), the standard of English has been declining at an alarming rate. Particularly 'bad English' acquired in childhood is more difficult to unlearn than at the post-secondary level.

It would be very helpful if the Commonwealth Universities Yearbook also provided the number of students enrolled in different language media at the college and university level for all universities.

The Pre-60's situation was decidedly better when the switch from the regional language to English at the initial stage of the tertiary level for all or most of

the students gave them adequate preparation of four years before they entered the postgraduate courses. All this confusion has led to the expansion of higher education without a sense of direction. The major employers are industry, banks and government. No preference is given to language medium graduates over the English medium ones. This had a backlash effect on the whole structure of education right from the primary level.

Suggestions

A proper planning should have led to the following alternatives :

- (i) Ideally to extend the regional language medium to all levels of education including professional courses—at the same time stepping up the knowledge of English for spoken and written purposes as the students moved higher up on the educational ladder.
- (ii) To go back to the pre-60's model imparting education through the mother tongue regional language only upto the higher secondary level and retaining English at all tertiary levels. This would naturally restrict the benefit of higher education to a small segment of the population and the gap between the elite and the masses could never be bridged.

A great deal of time was wasted on such questions as the preparation of textbooks and terminologies before the regional language medium was extended to all levels of higher education. As a linguist I can say that this was putting the cart before the horse. A language grows in a given domain of knowledge when it is used by its participants. It is not the terminology that offers the greatest hurdle in learning English: it is the grammar and the idiom of English.

Soon after independence, the regional languages should have been extended as instructional media progressively, keeping the textbooks in English. Over the next two decades, teachers who had received their education through the English medium could have used the syntax of the regional language with a free admixture of English/international terminology. They would have thereby developed styles suitable to teach different subjects—particularly those of science and technology. The preparation of textbooks and standardization of terms should have followed in due course after employing styles involving free code switching in the classroom for at least one decade. Prescribing norms of style and compulsion to use the terms prepared by scholars have slowed down language development. Certain agencies like the textbook

akademies monopolizing preparation of the textbooks have curtailed the creative participation of competent writers who could have prepared texts on different subjects with the users market ultimately determining the coverage and quality of the textbooks, as it happened between 1920 and 1947.

Steps to Reverse the Present Situation

- (i) Extending the regional language media to all levels without insistence on the preparation of textbooks and terminologies.
- (ii) Allowing teachers and students to freely use their variety/style for acquiring modern knowledge through the mother tongue/regional language thus creating conditions for different styles and terms to evolve through borrowing, semantic extension, fresh coining, etc.
- (iii) Standard English textbooks should continue to be the sources of knowledge.
- (iv) Specialized courses have to be developed to familiarize scientific English relating to different fields.
- (v) After at least a decade of such experimental classroom preparation, teachers with the experience of teaching different subjects should write books and there should be a free market for such books to compete for quality.
- (vi) Committees for standardization of terminology should come as the last step when, for each international concept, certain criteria of usage would be available to guide in the process of standardization. ☐

STATE OF POVERTY IN INDIA

Dr. Atul Kohli

Co-published with Cambridge University Press, this book studies the role played by the government in removing India's rural poverty. It focuses attention on the nature of ruling political parties as an important factor influencing the success or failure of redistribution and welfare politics in a democratic capitalist setting.

The responsibilities of the Central and State governments are examined in this context. A comparison of three state-level governments of the seventies is made, in terms of their success implementing reforms.

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Mobility of Teachers and Students in the University System

G.B.K. Hooja*

During her long and chequered history, India has received waves of immigrants to her green pastures from far and near. Pressed by dire necessity generated by local socio-economic and political pressure, adventurers of all sorts have been pouring into India from time to time. Contrary to the impression created by biased historians, not all came as invaders or conquerors. Some came in search of knowledge and Indian wisdom; others came as refugees seeking escape from tyrannies at home; yet others came as traders seeking profits or as adventurers in search of avenues of livelihood. They brought with them, naturally, their own ways of living, thought, culture, worship, speech; and were not unwelcome to the catholic princes and peoples of India, who gave them shelter, and embosomed them in the great composite culture of Bharat. It may be mentioned here that this traffic was not one-way traffic. Indian scholars, priests, merchants and even men of arms have been going East and West sowing seeds of Indian culture throughout the ages. True, dark shadows occasionally fell on India when she cut off her international contacts or due to internecine warfare and prevalence of degenerate practices she now and then fell a prey to foreign predators, but eventually she recovered her inherent strength and culture, shook off her shackles and proceeded on her historic mission of seeking universal brotherhood and unity amidst diversity.

This quest is convenanted in the Constitution of India, through which the People of India, that is Bharat pledged themselves to secure a social order, which shall be governed by principles of Justice, Equality, Liberty and Fraternity, Secularism and a common citizenship.

Though these universal values are embedded in the Indian psyche and are an expression of the general will of the people, they need to be reinforced and re-emphasised from time to time, to keep the evil forces at bay, for this world is nothing but a battlefield of good vs evil forces, and constant vigil is the

price of Liberty. It is in this background that the programme of mobility of teachers and students assumes critical importance, since Universities are the arenas where ideas are generated for good or for evil; and it is in the minds of men that wars are created and so is Peace.

It goes without saying that travel by itself is a great educational force. Hence, emphasis on travel for polishing up the gains of scholastic education. The modern university system has evolved the system of exchange of teachers and grant of sabbatical leave and reservation of seats for students from other regions, to partially afford the advantages of travel beyond one's locale to at least some of the beneficiaries of the academic stream, if not all. It may be of interest here to note that when the idea of establishing an Inter-University Board (IUB), the predecessor body of the Association of Indian Universities, came to be mooted in 1924, one of the important desiderata was "to facilitate the exchange of professors." In course of time as the usefulness of the Board as a coordinating agency came to be accepted and the Government of India had also entrusted to it certain functions, the Board proceeded to define its functions in 1930. It now decided to add exchange of members of the research staff also in the above mentioned function. Realizing the importance of this scheme towards raising academic standards, the IUB felt called upon to refer to it again and again at its Annual Conferences, in one form or the other, in 1943, 1945, 1948, 1950 and 1956. Later, the UGC also initiated a similar exchange scheme, but without much success. As the official historian of AIU notes, "to the difficulties of fixing emoluments and departmental adjustments as between the lending and receiving universities has now been added the problem of medium." He, however, would not be defeated and adds hopefully, "even so these difficulties need not be insurmountable especially at the postgraduate stage if universities really meant business!"

This is a serious reflection on the managers of the system and demands equally serious deliberations with a view to bridging the gap between intentions and implementation.

*Former, VC, Gurukula Kangri Vishwavidyalaya, Haridwar, 5 Abulfazal Road, New Delhi-110001

Educational reconstruction has been one of the most discussed themes in India over the last 150 years. Starting with Raja Ram Mohun Roy, Lord Macaulay, Dayananda Saraswati, Gurudeva Tagore, Gandhiji, Sadhu Vaswani, Sri Aurobindo down to Zakir Husain, S. Radhakrishnan and D.S. Kothari, eminent educationists have meaningfully contributed to the debate. There remains no doubt about **what** is to be done, but as the Report of Citizens for Democracy, entitled Education For Our People (1978) pointed out, "very little thought seems to have been given to **why** the earlier attempts to bring about these changes did not succeed, **what** steps must now be taken to ensure that they succeed in the future, **how** the proposed changes can be best materialized, and **who** will provide the leadership in bringing about these reforms".

In my opinion, this last question is the most important and vexing. Once the teaching community makes up its mind to assume this leadership and comes forward as the change agent, the path to India's educational reconstruction and social transformation shall become clear. As it is, reformist zeal has not yet seized the educationist community. There is an air of status-quoism, leading to depression and defeatism hanging all over. Exchange of teachers and students from region to region and university to university offers itself as an important plank in the battle against status quo.

Way back in 1962, when I was called upon to start the Rajasthan Agricultural University at Udaipur under the Indo-American Aid Programme, our University, alongwith the Ludhiana University in the Punjab, was attached to the Ohio State University in USA for general guidance, material aid, curriculum development, staff and student exchange, etc. This last item, indeed, proved a great and valuable factor in developing the operational modalities and work ethos amongst the staff and the alumni. I recall with fondness Prof. Byg standing in the mud and slush of our Experimentation Centre, with gum boots on, which example obliged our suited, booted teachers with neck-ties and all to follow suit and dirty their hands. It was this style which led to the success of the Green Revolution in India in less than a decade, to the abiding glory of the Indian peasantry, research scientists and extension workers. Here is something which the traditional universities in India would do well to learn from the Agricultural Universities, to mingle with the people, to appreciate their felt needs and aspirations, to break the walls which separate the elite and the deprived classes, to spread knowledge where ignorance, dogma

and superstitions abound. This process can be accelerated if the universities first choose to break the walls which separate them from each other.

The distance between Hardwar and Roorkee is hardly 30 K.M. The Gurukula Kangri Vishwavidyalaya (GKV) was established at Hardwar in 1902. It attained the status of a deemed university in 1962. Thomason Engineering College was established at Roorkee in 1847. It attained the status of a state university in 1949. They met for the first time in 1981, when Dr. Jagdish Narain, the then Vice-Chancellor of Roorkee was invited to inaugurate the Science Mela at the Gurukula Kangri Vishwavidyalaya by the then V.C. of GKV, Prof. Puri of Roorkee University is working on Vedic Mathematics, but there are as yet no signs of any rumblings on this issue at GKV, which is the repository of Vedic learning and boasts of a Mathematical faculty. The study of Comparative Religion is the need of the hour. Deoband is a seat of higher learning in Islam, situated in Saharanpur District of U.P. GKV is also situated in Saharanpur District, but there is no exchange of scholars between them.

Our ancient Universities, Takshsila, Nalanda, Magadha, Kamrup, Ayodhya, Valabhi, Vikram-Sila, Mithila, Nadia attracted scholars from far and near. The names of Fa-Hien, Hsien Tsang and I-tsing readily come to mind in this context. In reverse, the Indian scholars went abroad and carried the torch of Indian culture to distant shores and regions. Prof. Radha Kumud Mookerji recounts a galaxy of Indian scholars who "distinguished themselves by their work in foreign countries like Tibet, China, and the Islands of the Indian Archipelago, in a singular spirit of adventure in voyages of discovery to unknown lands, and of dedication to the cause of Learning for its own sake, as exiles from their own native place." "The work of these self-sacrificing scholars in the extension of Indian Learning and Culture to foreign countries so as to build up a Greater India beyond the boundaries of India proper is one of the greatest achievements in India's long history, and the best testimony to the value and vitality of Indian thought fostered in these Indian Schools and Universities," he adds in appreciation.

According to the French Egyptologist Maspero, the Chinese Emperor Ming-ti (A.D. 58-75) sent to India an embassy of 18 scholars to study. They returned with Buddhist holy books, statues and 2 Hindu monks, Kasyapa and Dharmaratna. These 2 Indian scholars were pioneers who opened up a vast field of work in China, attracting any number of scholars from India; to name a few, Samghavarman,

Dharmasatya, Mahabala, Dharmapala, Kalaruchi, Lokaraksha.

The next generation of Indian scholars who imparted a great impetus to Chinese Buddhism was represented by Dharma-Raksha, Gautama Samgha-Deva, Buddha Bhadra, Kumarajiva and so on. Dharma-Raksha (c. A.D. 381), mastered Chinese and 36 languages and translated 111 works into Chinese. Gautama translated 7 works. Kumarajiva translated more than 100 Sanskrit works into Chinese. He is also known as the teacher of Fa-Hien.

Similarly, Indian scholars were in great demand in Tibet. Prof. Santarakshita of Nalanda was the pioneer in the spread of Buddhist doctrine in Tibet in the 8th century. He was followed by Professors Padmasambhava, Kamalasila Sthiramati, Buddhakirti, and so on. These scholars learnt Tibetan, translated select Buddhist works into Tibetan and created the Literature which converted Tibet to a new religion. These works have survived their mortal authors and are an immortal testimony to their beneficent labours and a source of inspiration and spiritual nourishment to an entire people to this day.

Similarly, the Malay Archipelago also came under the influence of Nalanda in more than one way.

The story of Indian scholars in the cause of extension of Indian culture and learning is simply amazing. The hardships suffered by them involved not merely physical risks attending their journeys through dangerous land-and-sea routes, crossing steep hills, inhospitable deserts, tumultuous oceans and through politically hostile and unsettled regions. These also meant long or permanent exile from the land of their birth, separation from their near and dear ones. It also meant unusual linguistic capacity in mastering difficult and strange languages.

What motivated them? What sustained them?

The proposal now under consideration is mere picnic in contrast, when Science and Technology have reduced distance, and facilitated modes of travel and communication, and a welfare state guarantees equal remuneration for equal work and comfortable living conditions anywhere within its jurisdiction.

What we are left to examine is, why this hesitation? Why is it that in spite of the item having remained on the agenda for well over 60 years now, no appreciable headway has been made in its implementation? The best thing for the planners would be to try to receive the feedback from the teaching

community and the students, before a list of recommendations is drawn up.

I venture to pose a few questions, which I hope will be taken in the spirit of enquiry and not otherwise.

First, is it because no particular care is taken at the all-India level to ensure the entry of quality personnel into the educational system as is done in the case of parallel services like the IAS or the military? There are no ability tests, no aptitude tests at the entry point.

Second, is it because there is no provision for pre-service or continuous in-service training in the educational system?

Third, is it because there is no system of periodical assessment of the performance of teachers once recruited and none whatever for weeding out dead wood?

Naturally, I went to the New Educational Policy and the Programme of Action (POA) drawn up thereunder to check the veracity of the questions being raised by me, and found that I need not be so anologetic about them. The POA says:

"Methods of recruitment of teachers will be reorganised to ensure objectivity, merit and conformity with spatial and functional requirements...

Every effort will be made to make teaching an attractive profession to which young persons of talent and commitment may feel inclined to join. Apart from improvement in working and living conditions, the procedures of selection of teachers will also be reorganised. Persons who have given evidence of interest in teaching, love for children, of a spirit of adventure and creativity, and commitment for social upliftment will be preferred. In addition to these qualities, at the level of higher education, due attention would be given to the quality of intellect and capability to provide leadership to the youth. For selection of professors, readers and lecturers, persons from all parts of the country would be made eligible and effort made to ensure that at least one-fourth of the teachers at the university/college level in a state come from outside it."

This vindicates my diagnosis.

In the preceding paras, we have tried to find out what ails the system and who shall cure it. The

next question is how to materialize the proposed changes.

The POA plans to initiate discussions with the state Governments, and agencies such as UGC/AICTE, etc., to evolve a method of recruitment and to reduce the need to make ad hoc and temporary appointments and fill vacancies speedily. So far so good; but what is the guarantee that the response from the state governments shall be expeditious?

While discussing the Management of Education, the POA states that the establishment of an Indian Education Service (IES) will be an essential step towards promoting a national perspective. Basic principles, functions and procedures for recruitment to this service will, however, call for detailed consultation with the states so that the states adequately appreciate the need and benefit of this structure commensurate with their responsibilities.

Now this again is a halting approach and certainly not worthy of a nation in earnest. One fails to see why the Ministry of Human Resource Development cannot place a demand for say 200 recruits for the IES to be provided through its next combined examination for IAS/IFS? It may be noted that it took Govt. of India nearly 10 years to build up the IAS through promotions, emergency recruitment, special recruitments held more than once, besides direct recruitment. The IES would also have to follow the same course. So why delay? Let it also be noted that we knew in 1926 as to what was to be done. We know it in 1988 too. But the fault lies in our congenital (?) habit to procrastinate. This ill goes with the spirit of speed which has overtaken modern societies through the technological revolution. Time to act is now. If we fail to do so, our next generation would find us guilty at the bar of history.

I would end this paper with the conclusions formulated by the Gajendragadkar Committee on Governance of Universities and Colleges (1971) as follows:

"In conclusion, we would like to emphasize the fact that in the matter of making University education purposeful, meaningful and significant for the teachers, students and the general community, what ultimately matters is not so much the pattern to which the University or its statutory bodies conform, but the spirit of dedication and the sense of purpose which should guide the activities of those who will function in those statutory bodies. The administrative wing of the

University as well as the academic wing must work in a spirit of co-operation, understanding and imagination, and human touch must be present on the campus, in the class-rooms, co-curricular activities and even in purely administrative matters. Lines of communication between different sections of the University community must always remain alive and should never be allowed to be blocked. University organization should prove to the community at large that debate and dialogue communication and exchange of ideas, carried on freely, fearlessly and objectively, can solve all problems...We recognize that a sense of ethos in the minds of the teachers and the students will help and sustain the proper functioning of the University system...If the dual goal of 'knowledge and commitment' of University education is zealously and earnestly pursued by the University community, in the words of Nehru, all will be well with our country".

Hopefully, this sense of ethos and acceptance of the dual goal may arise out of intermingling of the teachers and students of diverse regions, languages and sub-cultures for the greater glory of India. □

INDIAN COUNCIL OF MEDICAL RESEARCH

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The Farming Profession

"Will youth continue to take interest in farming as a profession if agriculture involves only brawn and perpetuates drudgery and uncertainty of income?" asked Prof. M.S. Swaminathan, the eminent Agro Scientist and the Winner of the General Foods World Food Prize. "There is no hope for Indian agriculture if young boys and girls lose interest in farming both as a way of life and a means of livelihood," he added. Prof. Swaminathan was delivering the Convocation Address at the 10th Annual Convocation of the Gandhigram Rural Institute. To meet the twin challenges of economic viability of farming and ecological sustainability of high productivity, Prof. Swaminathan prescribed introduction of knowledge intensive technologies, farmer scientist partnership in developing location specific technologies, and a massive movement for the application of modern biotechnological knowledge in preparing value-added products from locally available biomass. Excerpts

Gandhiji advocated "Gram Swaraj" which in operational terms implies democratic decentralization. If we are to pursue a decentralised approach to sustainable development, education and training have to be our major tools. Universities are centres of learning with both students and teachers learning all the time. Gurudev Rabindranath Tagore said :

"A candle which is not lit cannot light others."

which valuable lessons can be learnt. The World Commission on Environment Development in its report submitted to the United Nations last year stressed that sustainable development holds the key to our 'common future'. Sustainable development is an activity which has to be carried out at the level of the individual human community and not as a detached top down series of prescriptions. As members of a Rural

Convocation

A teacher who is not also learning cannot teach others"

A Rural University like yours is, however, different from the regular Universities. You learn as well as promote "reverse learning", that is to say a process of drawing on the knowledge already present in rural communities whose traditions have evolved in balance with their environment and from

University you have the opportunity to demonstrate how to design development strategies which integrate the concept of ecological sustainability with those of equity and economic viability.

The National Policy on Education (1986) considers a Rural University as "a complex of institutions which seek to integrate all aspects of education and training with productive and creative acti-

vities, horizontally across disciplines of sciences, technology humanities and social sciences, and vertically across all stages of education ranging from primary to higher education". The Gandhigram Rural Institute symbolises this concept: You have been blessed with outstanding and dedicated leadership throughout. You can be proud of your past history as well as present achievements. The future however holds greater challenges.

Our population is growing. The natural resource base is under severe stress. At the same time, most of our population is young. The shape of things to come in our rural areas will determine their future. In this context, what are the areas which need added attention on the part of Rural Universities and Institutions? I would like to refer to five areas which merit analysis and action.

1. Vertical integration

Neglecting pre-school, primary and secondary education and concentrating most of our resources and attention on University education will lead to low standards at all levels of education. For achieving a learning revolution in villages, we need to pay attention both to the nutrition security of the child and to early education. Access to balanced nutrition and safe drinking water is essential for giving the pre-school child an opportunity for the full expression of his or her innate genetic potential for physical and mental development. The mid-day meal programme of the Tamil Nadu Government provides also an excellent opportunity for promoting school fuel wood plantations and energy-efficient and smokeless stoves. A Rural University can promote such beneficial linkages.

2. Establishment of Krishi-cum-Udyog-cum-Van Vigyan Kendras

A Rural University in association with the people of each block can help in optimising the benefits from the natural resources of the block. The land available in each area will have to be classified into the following three management systems :

(a) *Conservation areas* : Wherever there is need to conserve an area in its pristine purity, steps should be taken to protect the area permanently.

(b) *Restoration areas* : These are lands which need to be upgraded through appropriate management procedures. The areas commonly referred to as "wastelands" fall under this category.

(c) *Sustainable intensification areas* : These are lands where high yields can be obtained on an ecologically sustainable basis.

Scientific resource use planning could lead to the identification of opportunities for generating gainful employment in the following three sectors :

(a) Agricultural sector which includes crop husbandry, animal husbandry, fisheries and forestry.

(b) Industrial sector which includes post-harvest technology, biomass utilization, and small industries.

(c) Services sector which includes a variety of services vital for improving the productivity, profitability, stability and sustainability of the farm and non-farm sectors of economic activity.

Once the portfolio of tasks to be accomplished has been compil-

ed based on considerations of economic viability, ecological sustainability and equity, grassroot level training institutions based on the principle of learning by doing should be established. The Krishi Vigyan Kendra concept of ICAR should be enlarged to cover the village industries, farm and social forestry and services sectors. Such institutions should strive to impart the latest technical skills to illiterate men and women, thereby ensuring that Technocracy helps them to overcome the handicaps of not being formally literate.

3. Science and Technology for Farmers with Small Holdings

The average size of an operational holding in the country as a whole decreased to 1.8 hectares in 1980-81 from 2.0 hectares in 1976-77, according to the Agricultural Census of 1980-81. At the aggregate the decrease in average size was nine per cent. Also, 74.6 per cent of small and marginal holdings account for only 26.3 per cent of the area. Thus, the livelihood security of a vast majority of farm families depends on the efficiency and stability of small farm agriculture.

A second reason why small farmers need specific treatment is due to the differential attention they need from scientists and political and developmental administrators. Quite frequently, the distinction between a small farm and a small farmer is forgotten. A small farm is ideal for science based intensive agriculture. A small farmer is one who often has little access to new skills and inputs and has little capacity to take risks or face climatic and marketing stresses. The small farm needs the explicit attention of scientists and technologists be-

cause while technologies developed for small farmers will be relevant to larger farmers as well, the reverse will not be true in many instances. Also, the small farmer needs specific attention from those in charge of formulating public policies. Failure to make this distinction often blurs perception and appropriate action.

Thirdly, the majority of the population both in rural and urban areas is below the age of 21. Young farmers constitute the genuine majority of the rural community. The child population (10-14 years) itself is expected to be about 274 million in 1991. Will youth continue to take interest in farming as a profession if agriculture involves only brawn and perpetuates drudgery and uncertainty of income? There is no hope for Indian agriculture if young boys and girls lose interest in farming both as a way of life and a means of livelihood. How can agriculture as profession excite them?

Apart from the challenge of attracting and retaining educated youth in agriculture and other rural professions, the other major challenges are in the areas of economic viability of farming and ecological sustainability of high productivity. What are the priorities in scientific research if we are to address these issues in a meaningful manner?

Three areas of research need integrated attention.

First, we need to step up our efforts in substituting knowledge for capital. Knowledge-intensive technologies can be both intellectually exciting for youth and cost-effective. Such technologies can lead to a reduction in the cost of

the inputs used without reducing yields. They can help to substitute farm grown inputs for market purchased ones. They involve detailed attention to every step in the production-consumption chain. Examples of such technologies are integrated nutrient supply and integrated pest management systems.

Second, we need to foster active farmer-scientist partnership in developing and spreading location-specific technologies which can help to maximise income and employment from the land, water, labour and credit resources available to a small farmer family. You can spearhead the growth of the farmer-scientist joint sector technology generation activities under your Farming Systems Research Programme. A major emphasis is such research should be the diversification of labour use and the promotion of a purposeful services sector. We need more opportunities for gainful employment outside the traditional farm sector.

Third, we need a massive movement for the application of modern biotechnological knowledge in preparing value-added products from locally available agricultural biomass. Blue prints for Mini-agricultural Refineries will have to be developed. Women can play a leading role in preparing value added products from the locally available biomass.

Such a three-pronged research strategy will have to be supported by appropriate packages of services and public policies. A public policy instrument which is urgently needed is a package of incentives for promoting group cooperation among farmers living in a watershed or village or an irrigation command, in areas such as water

conservation and management, integrated pest management and improved post-harvest technology. A formal cooperative society is not necessary to foster cooperation. If group cooperation is not promoted, the efficiency of small farm operations will be low. There is no future for inefficient farming, unless government can subsidise heavily the farm sector.

The best in modern science and technology alone can help to elevate and stabilise small farm productivity and improve farm income and the quality of rural life. It may be argued that illiteracy could be a handicap in the spread of knowledge intensive technologies. The number of illiterates in the age group 15 and above was 243 million in 1980. A majority of them are engaged in land and water based occupations, namely, crop husbandry, animal husbandry, fisheries and forestry. How can they acquire the new skills and knowledge essential for entering the new era of small farm agriculture? This is where modern communication strategies like Television, Radio, Computer-aided extension and learning by doing techniques can play a pivotal role. Rural Universities should bring to villages the benefits of both the information and biological revolutions we have witnessed in recent decades.

4. Horizontal integration of disciplines in research and development programmes

Most of the environmental and economic problems in rural areas are multi-dimensional in nature. Unfortunately, we try to face them with unidimensional thinking and administrative structures. This is where a Rural University can perform the vital function of being a catalyst in promoting

multi-dimensional thinking and action. Unless technological and social engineering approaches are integrated, it will be difficult to improve the efficiency of management of small farms and rural industries. Decentralised systems of production supported by essential centralised services should be fostered. A careful study should be made of growth linkages. For every individual involved in the physical aspects of farming such as ploughing and sowing, 4 to 5 jobs can be created in the non-farm sector provided farming systems are designed in such a manner that beneficial growth linkages can be multiplied. A small country like Holland earns more foreign exchange from agricultural exports than the entire foreign exchange earning of India. If we are to promote beneficial growth linkages, horizontal integration of technologies, services and public policies is essential. If we do not promote such linkages in the rural sector, landless labour families will have no option but to migrate to towns and cities.

5. Establishment of Rural Technology Parks

During the VI Plan formulation, I had worked for providing a new deal for the self-employed both in rural and urban areas. For this purpose, several measures were proposed in the plan including greater efforts in integrating traditional and frontier technologies in rural professions. The establishment of Science and Technology Parks in our Universities was conceived as one method of linking laboratory and the self-employed youth. Such Parks will help to serve the triple purpose of (a) promoting self-confidence and competence in young entrepreneurs, (b) estimating the credit-worthiness and cost benefit rela-

tionships of new technologies, and (c) providing training through work experience.

Your Vice-Chancellor, Shri Devandra Kumar has rich experience in integrating traditional and frontier technologies. Under his leadership you could establish a *Rural Technology Park* which shows how intellect and labour can be combined in a meaningful manner, as advocated by Gandhiji. The opportunities for achieving a blend of traditional and frontier technologies are great in biotechnology, satellite imagery, micro-electronics and computer technology. Biotechnology industries are particularly relevant to our socio-economic conditions because of the following factors :

First, in our rural areas biomass is the principal feedstock for industry. Secondly, biotechnology industries can be organized in a decentralised manner supported by a few key centralised services. Thirdly,

they offer additional opportunities for increasing the production of food, fodder, fuel and fertilizer. Obviously, the *Gandhigram Rural Technology Park* will have to be organized in collaboration with other appropriate Universities and Institutions in Tamil Nadu and elsewhere, so that the available pool of knowhow gets converted into do-how.

We now live at a critical time in our ecological history. Our life support systems of land, water, flora, fauna and the atmosphere are all under severe stress. To endangered species we have now added a new category of global risks endangered nations. For example, a country like Maldives could disappear, if ocean warming leads to a rise in sea level of about 2 meter. Experts who assembled in Bellagio in Italy, recently to discuss climate change, concluded that a rise in sea level upto one and one-half meters is quite likely

within the next 40 to 60 years. Youth involvement in the conservation of the biosphere is hence a must if the quality of life in the 21st Century is not to be mortgaged. You are famous for your outstanding extension work. May I appeal to you to design and initiate an "Earth Care" programme for all students for suitable lengths of time during and at the end of the formal training. Such a programme should provide opportunities for learning by doing and should involve such assignments as participation in the establishment of biosphere reserves and national parks, conservation of biodiversity at the local level, raising village forests, gathering ground truth data for remote sensing analysis, environmental sanitation and protection of the health of the soil, water and atmosphere. Such a compulsory "Earth Care" service to be educationally purposeful should be intellectually stimulating in addition to being emotionally satisfying. □

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Monitoring and Implementation of National Policy on Education

The third in the series of seminars being organised by the Association of Indian Universities (AIU) in various regions of the country to consider the monitoring and implementation of the National Policy on Education was held at the University of Poona on 27-29 June, 1988.

Welcoming distinguished Vice-Chancellors from Universities in the region and other participants, Dr. V.G. Bhide, Vice-Chancellor, University of Poona, drew attention to the fact that education, in general, and higher education, in particular, provides strength to society and is perceived to be responsible for economic and social development of the country. He reiterated that the system of higher education, in coping with problems related to increasing number of students, exponential increase in knowledge and above all the decreasing resources, has come to a stage that it requires strengthening & reorientation to serve as an effective instrument of social change. He was happy that important themes like "Teachers and their Training; Research and Extension, Education for Women, S.C. & S.T., Physically Handicapped, and Restructuring of Courses" will be under scrutiny in the seminar. Prof S.K. Agrawala, Secretary, AIU, outlined the activities to be undertaken by the seminar participants after keynote speeches on these topics by forming themselves into groups to go into details in terms of the elaborate proforma distributed to them. He also suggested that in addition to discussions on generality of issues, specific points for discussion as described in the proforma must be taken up by the groups and recommendations made

by them after consensus had been reached.

Dr. L.K. Doraiswamy, Director, National Chemical Laboratory, who inaugurated the seminar, felt that there was no single answer to the question of what constituted a University in today's context. Despite several shortcomings to which he drew attention, he struck a positive note that the Indian University system was unique; it was alive to the changing needs of society, and allowed scope for work in every conceivable area. He suggested that in addition to planning as an intellectual activity, cooperative effort for implementation of programmes and activities must form an integral part of the University system. He was of the view that the present day university system, while promoting intellectual freedom lacked in mental discipline with the result that the University system today was perceived as a place of strikes, dharnas, etc. and found to be slowly deteriorating in its character. He said that immediate steps need be taken to bring back the University into its earlier state and re-oriented and integrated with national objectives in terms of teaching, learning and education and also with international needs in research. While drawing a clear distinction between education and training, he suggested that the Universities must remain at a level where natural freedom of human mind to do original and creative things, to advance and extend boundaries of knowledge and in short, activate the whole mind of those who pass through it was preserved and they remained Institutions of learning and research rather than Institutions of training and skill development. He felt

that there was a danger in talking of relevance in education in the context of explosion of knowledge; the question of relevance is short-lived and the emphasis must be on changing requirements. He was of the opinion that talent must be identified, nurtured and encouraged. Talking of industry-institution relationship in the context of higher education, he said that it was for the University to generate ideas, the laboratory to take up the ideas and make them into a project and eventually the industry to apply and make use of the ideas.

Dr. (Miss) Bengalee, Vice-Chancellor of Bombay University delivering a keynote address on "Teachers and Their Training", drew attention to the changing role of teachers and perceived the teacher as a human Engineer. She strongly advocated teacher education in place of teacher training, as in the modern context, teacher training was no more relevant and teacher education much more comprehensive. She pointed out that the objectives of higher education and particularly those of teacher education, as outlined in the National Policy on Education, involved the teacher in the areas of developing knowledge, communication ability, skill attitudes, values, imagination and creativity in students and also in sensitising them to develop love and compassion, enhancing employability and developing mental health and discipline. Talking of equity, quality and efficiency, she said that majority of our teachers should be trained for the non-formal system since nearly 60 million students, as opposed to 30 million in the formal system, will have to be tackled in the non-formal system. According to her, the new policy on education in terms of improving quality at all levels, had laid emphasis on

Navodaya Schools and several teacher development programmes. She reiterated that an understanding of professional ethics must be a major component of training programme for University teachers. She felt that teachers were lynchpins in the system and that they must form not only a part of educational system in the Universities but also participate in other programmes like the massive programme of functional literacy.

She was of the opinion that academic staff colleges that are established must orient new entrants to teaching in areas like content and subject updating, methods and techniques of teaching, professional growth and personal development and general awareness. She appealed to Vice-Chancellors and others in the seminar that every effort must be made to organize special programmes for curriculum construction and slowly develop teacher resources centres in every educational Institution.

Dr. Ram Takwale, former Vice-Chancellor of University of Poona, presenting a keynote address on "Restructuring of undergraduate courses and national policy of education" emphasised that the higher education was a crucial factor for the survival and development of humanity. He felt that higher education reflected on critical, social, economic, cultural, moral, spiritual issues facing humanity and contributed to national development through specialised knowledge and skill. Among the various problems of education, he singled out the redesigning of undergraduate courses as the procedure to integrate and introduce most of the other objectives in the Programme of Action. He suggested that the restructuring of courses on the whole should offer educa-

tional and learning facilities for the total development in intellectual abilities, skills and appropriate value system. It should clearly establish link between education which functions for human resources development, social utilization of it and the self economic and social development. He then proceeded to give details of a model of restructuring adopted by the University of Poona :

<i>Component</i>	<i>Weightages</i>
A. Foundation Courses	5-25%
B. Core Courses	50-65%
C. Applied Courses	15-25%
D. Vocational Courses	5-10%
E. Personality Development and Community Service Courses	5-10%
F. Project Work/Work Experience	5-10%

He felt that in order that, restructuring be successfully implemented over-centralization, rigidity of system, external pressures and internal inertia including financial inadequacy must be eliminated and restructured curriculum should be uniformly adopted by all colleges affiliated to the University in phases.

Mr. K.K. Khullar in his keynote address on "Education for Women, Handicapped, SC & ST, etc", said that it is people's policy and that implementation must not be looked upon to be exclusively the responsibility of the Ministry but must be shared by all concerned. He emphatically pointed out that implementation did not mean creating more infrastructure and that Universities should be

persuaded to accept not only implementation in areas concerning them but help in a big way, in other important national targets viz. universalization of elementary education, non-formal education, operation black board and adult education. He suggested that the concept of operation black board must be extended to the college sector in terms of minimum educational facilities in every college. He was of the opinion that there should be a separate programme of action for education of women, S.C. and S.T. and minorities which should be comprehensively looked at by all sectors viz. formal, non formal, University and voluntary and every effort made to meet the national target set out in the Programme of Action.

Dr. (Mrs.) Sneha Bhargava, Director, All India Institute of Medical Sciences, reiterated that of the 13000 medical graduates positions in 152 colleges in the country, only 30% of them accounted for women. She deplored that in India we had a nurse for every 2.1 doctors as against the world standard of 5 to 6 nurses per doctor. Nearly 80,000 nurses were required in India of whom only 6000 were produced every year. She called for urgency in the matter of providing for extra nursing education to meet the challenges of health for all by 2000. A.D.

Dr. V.G. Bhide, Vice-Chancellor, University of Poona, in his keynote address on "Research and Extension", redefined the role of Universities in the area of Teaching, Research and Extension, in that the main emphasis should be on advancement of new knowledge, new abilities/skills. In the context of a considerable reduction in the period of obsolescence from

30 years to 3 years today, our country, he felt, could not remain on borrowed technology and should increasingly develop its own technology. He described, in great details, steps taken, programmes and activities undertaken by the University of Poona, in the last few years to give a pride of place to Research & Extension, namely :

(a) Linking up every department of the Natural Sciences/Social Sciences/Humanities with a corres-

ponding National Agency,

(b) Organising postgraduate teaching in sciences in collaboration with National Institutes, and

(c) Constituting inter-disciplinary research groups for several programmes in collaboration with industry viz. know your university and own your university, centralised testing problem solving have been undertaken successfully. □

parative status the designation, Scientist be changed to Research Lecturer, Research Reader and Research Professor instead of the categories A, B and C.

(2) Scientists be confirmed after suitable time limit and be treated at par with teachers of the central universities. Of course, the promotion can only be granted after satisfactory performance of the scientist.

(3) A scientist be provided substantial grant for doing research. At present a scientist gets only a contingency grant of Rs. 5000 which is the same as in case predoctoral JRF. Also, unlike JRF the university or the department in case of a scientist does not get additional grant for supporting a scientist.

(4) The scientist usually does not have access to the students (M.A./M.Phil./Ph.D.) and often the research requires a team work. In view of this, the scientist should be provided the facility of having at least one research assistant.

(5) The Commission must clearly state the role and status of a scientist in the university department to avoid the discretion (or mercy) of the department. A scientist should be allowed to teach 4-6 periods and to guide M.Phil and Ph.D. students.

(6) At last, but not the least, the scientist be given a status of an 'employee' either by the Commission or by the University.

Yours etc.

Maharaj Singh

Deptt. of Psychology,

Institute of Advanced Studies,

Meerut University, Meerut

Communication

Research Cadre in Indian Universities

Sir,

In order to promote high quality research in science, social sciences and humanities in the universities, the University Grants Commission a few years ago, created a cadre of Research Scientists in the grades of lecturers, readers and professors.

Eversince the Commission started this novel scheme, several questions have been raised and clarifications sought. The Commission has tried to clarify various aspects of the scheme. However, it appears that the existing guidelines of this scheme need further modifications. I would like to take up some of the issues and make some suggestions.

According to the Commission's report for the year 1984-85 initially only 51 promising scholars were offered the positions of Scientists 'A'. These Scientists were promised (clearly mentioned in their selection letter) that they would be getting pay and allowances along with all other facilities including

of GPF/CPF as applicable to the Central Universities' Lecturers. Surprisingly, the Commission later changed its stand and instead mentioned that a Scientist would be getting facilities as applicable to the other teachers of the university where he/she has been working. As a result of this scientists working in the universities other than the central universities suffered.

The Commission further made several changes and mentioned that all the facilities as applicable to the 'temporary' teachers (long-term) be provided to the scientists. In fact the addition of the word 'temporary', which earlier guidelines did not have, actually curtailed the facilities. Mainly, the facilities such as GPF/CPF do not apply to temporary staff of the university at all. Whereas, a university teacher after a probation period of one year gets all the facilities.

In view of the above issues, I would like to make the following suggestions :

(1) In order to bestow com-

Major Reforms in Law Faculty Recommended

The Vice-Chancellor of the University of Delhi had set up a 10-member committee, under the chairmanship of Justice V.S. Deshpande, to critically assess the admission procedures, course structure and evaluation system in the Faculty of Law and to suggest necessary improvements therein". After several meetings and deliberations, the committee has recommended major reforms in four areas, namely, admission procedure, examination pattern, promotion rules and evaluation system. To weed out the various obstructions in the smooth functioning of the admission process in the faculty, the committee has proposed the conduction of an admission test to the L.L.B. course. The committee has also suggested the abolition of all special category admissions, except those in the Scheduled Caste/Scheduled Tribe quotas. Appointment of an L.L.B. Admission Test Committee which "may formulate guidelines for conducting the Test in consultation with the examination units of IIT, CSIR, ICSSR and AIU etc." has also been recommended.

After a critical appraisal of the examination pattern in the law faculty, the committee, in its report, concluded that abolishing the supplementary examination system would help save more time for teaching in the Law Centres. "It was felt that the Law Centres should not be only examination bodies, but primarily teaching institutions." The committee took serious view of the fact that at least 86 days (of a total of 180) are lost/consumed only in holding examinations—both annual and supplementary—for the two semesters in any academic year of LLB course. In fact, supplementary examina-

tions of one year spill into the next academic year in the law faculty, the report points out.

Another recommendation made by the committee relates to the number of examination papers for each year of the LLB course. Presently, there are 43 papers, of which 30 are compulsory and 13 optional. The report urges the faculty to consider abolishing a few optional courses where the number of students opting for these courses does not exceed 20 over the years. Besides, the committee has suggested that optional papers be offered to the students only in the final year and not in the second year also, as is being presently done.

On the issue of promotions of students from one year to the next, the committee has recommended continuance of the past practice i.e. for promotion from the first year to the second year, passing in eight out of 10 papers. For promotion to the final year, it was necessary to pass 18 of the 20 papers in which a student appeared in the first two years of his course. However, over the years these numbers have come down to five and 15, respectively.

The committee has not acceded to the long-standing demand of the students for being given the option of re-evaluation of their examination papers. However, the report says, if in an individual case, evidence discloses a strong prima facie case of injustice, the extraordinary powers of the Vice-Chancellor may be invoked to order revaluation in an individual paper of an individual student.

The committee has also express-

ed a strong opposition to the idea of relaxation in promotion rules through the implementation of the 'mercy right' by the University's Academic Council. In its opinion, this must be stopped if academic standards in the faculty are to be maintained. The committee further warns that if this practice is not stopped now, a stage may come when even the Bar Council of India may take steps to derecognise the LLB course of Delhi University.

Sophisticated Instrumentation Centre

The Regional Sophisticated Instrumentation Centre (RSIC) at Central Drug Research Institute, Lucknow is among the seven such centres in different parts of the country established by the Department of Science & Technology, Govt. of India.

The RSIC, Lucknow, provides sophisticated Instrumental facilities to researchers, scientists and technologists in academic and research institutions and R & D centres of industry at nominal rates. The centre also organises workshops / users meeting on various instrumental techniques every year.

The instrumental facilities available at RSIC, Lucknow are Circular Dichrograph, Electron Microscope (SEM and TEM), High Pressure Liquid chromatograph, Elemental Analyser, Gas Liquid chromatograph, IR spectrophotometers (including FT IR), Mass spectrometers (EI, CI with positive and negative ion detections and FD), NMR spectrometers (^1H , ^{13}C , 400 FT-NMR), and UV/Visible spectrophotometer.

For further details please contact
The Head, Regional Sophisticated

Instrumentation Centre, Central Drug Research Institute, Lucknow-226001.

34th All India Library Conference

34th All India Library Conference of the Indian Library Association has been announced to be held at Calcutta in December 1988. The Bengal Library Association will play host. It is for the first time that the conference will be held jointly with the annual conference of the Indian Association of Special Libraries and Information Centres (IASLIC).

The theme of the conference will be 'Library and Information Services : Assessment and Effectiveness'. Prof. S. Parthasarthy, Director, Institute of Information Studies, Madras, will direct the Seminar. Papers for the Seminar can be submitted to the General Secretary, Indian Library Association, A/40-41, Flat No. 201, Ansal Buildings, Mukherjee Nagar, Delhi 110009, by 16th August 1988.

Shri Arun Ray, General Secretary, Bengal Library Association, P-134 CIT Scheme 52, Calcutta-700014 (West Bengal), will be the Organising Secretary of the Conference.

Introducing UNIX

The Mechanics and Computers Division of the Thapar Corporate Research & Development Centre (TCR & DC)—an integral part of the Thapar Institute of Engineering and Technology, Patiala—organised a course on UNIX Introduction from 23-27 May 1988.

The objective of this course was to introduce the participants

to the UNIX operating system. The file examination, filters, file system, etc., were covered in this course. Dr. R.K. Verma, Analyst, T.C.R. & D.C. conducted the course. During the course the participants did the practical work on H-800 computer system.

Dr. Sharma Heads Zonal Planning Committee

The Planning Commission has constituted a zonal planning committee comprising the states of Madhya Pradesh, Rajasthan and Uttar Pradesh for determining future planning strategies. The committee comprises Dr. D.K. Sharma, Vice Chancellor, Jawaharlal Nehru Krishi Vishwavidyalaya (JNKVV), Jabalpur as Chairman and Vice-Chancellors of Agricultural Universities at Kanpur and Bikaner, Agricultural Production Commissioners of M.P., U.P. and Rajasthan, Secretaries of Agriculture, Animal Husbandry and Irrigation of M.P., U.P. and Rajasthan as members. Representatives of the Planning Commission, I.C.A.R., Ministry of Agriculture, Govt. of India in Planning Commission are also on the committee besides a few scientists from the zone.

Central Assistance for Gorakhpur University

The University Grants Commission (UGC) has selected the Department of Psychology of the Gorakhpur University for special assistance. It has sanctioned a sum of Rs. 24 lakhs to the department for the first five years to enable it to become a centre of excellence in teaching and research. The department has been recognised as a leading department in experimental Psychology and

also in environment and human development.

Academic Staff College

An Academic Staff College has been established in Gorakhpur University. It is running the first orientation course for the newly appointed teachers of Avadh and Gorakhpur Universities from June 20, 1988 to July 17, 1988.

The Orientation Course was inaugurated by Prof. S.P. Nagnendra, Vice-Chancellor of Lucknow University who exhorted teachers of universities and degree colleges to be conscious of their responsibilities towards society.

JNU Students Scale Black Peak in Garhwal

A six-member mountaineering team from Jawaharlal Nehru University has successfully climbed the 21,000 ft. high Black Peak in the Garhwal Himalayas. The important thing of this expedition was that no high altitude porters or sherpas were employed and the team did things on their own steam.

According to the leader of the Expedition team, two attempts proved to be unfruitful and only a determined third attempt saw three members on the summit where the Indian tricolour and the JNU flag were unfurled.

This is the first successful Expedition of the peak by a University team in the country, sponsored by the Jawaharlal Nehru University, Indian Mountaineering Foundation, Indian Express, Anand Bazaar Patrika and Enfield India Limited.

News from Agril. Varsities

Belgian Award for ICAR

New Researches at KAU

A research project on developing monosomics and trisomics in cucumber and locating genes in chromosomes has been sanctioned for implementation by the Kerala Agricultural University (KAU) at the College of Horticulture, Vellanikkara with the aid of the Indian Council for Agricultural Research. The duration of the project is three years with a total financial outlay of Rs. 4 lakhs.

The ICAR has sanctioned a research project on "Preservation and nutritive quality of miscellaneous fodders with special reference to subabul" at the Department of Animal Nutrition, College of Veterinary and Animal Sciences, Mannuthy.

The project aims at developing suitable methods for the preservation of fodder, finding out the extent of reduction of toxic components that are present in some of the fodders and assessing the nutritive quality of the processed product. The project with a total financial outlay of Rs. 4.4 lakhs is to be completed within a period of three years.

To compare the performance of available varieties of ginger, turmeric, colocasia and soyabean under varying levels of shade, a project on "Shade studies in coconut based intercropping situation" has been taken up by KAU at the College of Horticulture, Vellanikkara, under the supervision of Dr. R. Vikraman Nair. The pro-

ject, fully financed by ICAR (Rs. 4 lakhs) for a period of three years, also aims at selecting promising varieties of the above crops and predicting their performances at different shade intensities in coconut gardens.

New Varieties Developed by HAU

Four high yielding varieties of HAU, namely, DS-1 of American Cotton, 'Coarodi' of cowpea, 'Gora Hisari' of Kabuli gram, and HKR-120 of rice have been notified by the Central Seed Committee of the Govt. of India. Now, with this notification, the seed multiplying agencies at the central and state levels have been authorised to supply of seeds, for general cultivation, to the farming community.

The desi cotton variety DS-5 has been recommended for sowing throughout Haryana and has added advantage of non-shattering of bolls as against the previously released cotton variety C-27.

The cow-pea variety 'Charodi', besides being high yielding, possesses uniform colour of seed and synchronous maturity.

The Kabuli gram variety 'Gora Hisari' is good for table purposes and the rice variety HKR-120 possesses disease resistance against bacterial leaf blight (BLB), stem rot, and plant hopper (DBPH). This is the first variety evolved by HAU's Rice Research Station at Kaul (Kurukshetra).

The 1988 King Baudouin of Belgium International Development Prize has been awarded to the Indian Council of Agricultural Research (ICAR) for its continuing efforts in the education of farmers in the use of suitable technologies.

The award was instituted in 1978 to reward people or organizations who have made a substantial contribution towards the development of the Third World or towards the cooperation and good relations among industrialized and developing countries and their people.

Previous recipients of the award have included Brazilian educator Prof Paulo Freire, the founder of the Sarvodaya Shramadana movement in Sri Lanka, Mr Ahangama Tudor Arivaratne and an eminent British scientist, Dr. Walter Plowright.

The prize, carrying a cash award of four million Belgian Francs (approx Rs. 15 lakh), will be awarded to ICAR in November.

HAU to Assist Poultry Farmers

A state level Advisory Committee consisting of representatives of the Haryana Poultry Farmers Association and Haryana Agricultural University (HAU) scientists has been constituted to go into the problems of poultry farmers of the state. This decision was taken at a meeting of HAU scientists and members of Haryana Poultry Farmers Association, presided over by HAU Vice-Chancellor, Dr. Har Swarup Singh.

Dr. Har Swarup Singh assured the poultry farmers of all technical support and timely advice regarding the proper health care, management, breeding, and disease control of their poultry.

Captain K.S. Rana, Secretary, Haryana Poultry Farmers Association, pleaded for a State Poultry

Corporation for Haryana so that it could look into all problems faced by the poultry farmers, especially with regard to marketing of their produce. Captain Rana said that at present there are as many as five layers of middlemen between the producer and the consumer.

interact and share their experiences with the participants. A set of practical recommendations are likely to emerge from the discussions which could be helpful to universities and research institutions in reorganising their public relations activities. To ensure effective discussions it is proposed to limit the participation to 40 persons on first-come first-served basis. Those interested in participation may send the registration fee of Rs. 1500/- by way of a demand draft drawn in favour of Secretary, Association of Indian Universities New Delhi by July 20, 1988.

AIU News

Public Relations in Universities

The Association of Indian Universities (AIU) will organise a Group Discussion-cum-Orientation Programme on Public Relations in Universities and Research Organisations at the Tata Institute of Social Sciences, [Sion, Bombay from 7-12 August 1988. The programme is expected to benefit persons looking after the publication, information and public relations work in universities, and institutes of higher learning and research organisations. The focus of discussion will be on the role of public relations in educational and research institutions. It is proposed to organise sessions on the following themes :

Formulation of educational news,
Press release, Press conference & media relationship,
Exhibitions and Displays,
Creative Advertisement,
Role of House Journals in Internal Communication,
Computers in the service of Public Relations,
Development of Corporate Culture, Coordination of Educational Publications, and
Special coverage for sports, culture and science news.

Experienced administrators, academicians, media men and

practitioners of public relations in the country would be invited to

News from UGC

INSAT-1B Programme of UGC

Between 21st July to 30th July, 1988 the following schedule of telecast on higher education through INSAT-1B under the auspices of the University Grants Commission will be observed. The programme is of one hour duration every day from 12.45 p.m. to 1.45 p.m. (Repeated from 4 p.m. to 5 p.m.) and will be available on the TV Network throughout the country. For the viewers in Delhi and surrounding areas these programmes can be seen on the second channel.

21.7.88

"Introduction to COBOL—VIII"
"Continental Crust"
"Water Research"

22.7.88

"Networks and Matrices"
"Drug Menace—I"
"Warning Signal"

23.7.88

"Introduction to Indian Music—III"
"Satish Gujral—I"

"Personality Development : Surya Namaskar"

24.7.88

No Telecast

25.7.88

"Optical Alignment—IV"
"Raw Materials—Salt"
"Wasteland Development"

26.7.88

No Telecast

27.7.88

"Energy Conservation"
"Mammals in Water"

28.7.88

"Introduction to COBOL—VII"
"Geochemical Mapping"

29.7.88

"Relations : Ringing the Changes"
"Drug Menace—II"
"When Sound Becomes Fury"

30.7.88

"Introduction to Indian Music—IV"
"Mudra—The Art of Communication"
"University Round Up"

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A List of Select Articles culled from periodicals received in the AIU Library during June, 1988

EDUCATIONAL PHILOSOPHY

Maguire, Daniel C. Can a university be Catholic? *Academe* 74(1), 1988 12-16.

Mohanty, Malaya Kumar. Naturalistic trends in Gandhian education. *Gandhi Marg* 10 (3), 1988, 149-55.

Sharma, A.P. Freedom and its relevance to education: Krishnamurti's concept. *J Indian Edu* 13 (5), 1988, 20-3.

EDUCATIONAL PSYCHOLOGY

Ansari, M.Y. The management of studies. *J Indian Edu* 13 (4), 1987, 28-36.

EDUCATIONAL SOCIOLOGY

Bhimasankaran, C.V. Academic corruption: A way out. *J Indian Edu* 13 (4), 1987, 51-5.

EDUCATIONAL PLANNING

Choudhary, Kameshwar. Is education still on the beaten track? *Yojana* 32 (7), 1988, 4-6, 11.

Spaulding, Seth. Prescriptions for educational reform: Dilemmas of the real world. *Comp Edu* 24 (1), 1988, 5-17.

Srivastava, Ranjana. Missing links in our educational planning. *Yojana* 32 (7), 1988, 7-11.

EDUCATIONAL ADMINISTRATION

Dandapani, S. Fostering a sense of accountability. *J Indian Edu* 13 (5), 1988, 11-13.

CURRICULUM

Mohanty, Sunil Behari. Socially useful productive work. *J Indian Edu* 13 (5), 1988, 30-34.

TEACHERS AND TEACHING

Barrett, L.R. The separation of teaching and examining. *Hr Edu Rev* 20 (2), 1988, 65-6.

Chari, Ahilya. Teacher education: The Sussex model. *J Indian Edu* 13 (5), 1988, 47-52.

Kakkar, S.B. and Dhand, H. Teacher education in India: American influence. *J Indian Edu* 13 (5), 1988, 3-10.

Mitrofanova, Olga and Desherieva, Yulia. The origin, limits and future of mother tongues. *Prospects* 17 (3), 1987, 461-68.

Taylor, William. Robbins and the education of teachers. *Oxford Rev Edu* 14 (1), 1988, 49-58.

Trotman-Dickenson, D.I. Learning and teaching problems in part-time higher education. *Hr Edu Rev* 20 (2), 1988, 47-59.

EDUCATIONAL TECHNOLOGY

Anderssen, E.C. and Solms, S.H. Von. A CAI space-time model of historical battles. *Comput Edn* 12 (2), 1988, 269-75.

Anderson, Jonathan. Computer-assisted language learning. *Prospects* 17 (3), 1987, 417-29.

Boyd, Gary. The impact of society on educational technology. *British J Ednl Tech* 19 (2), 1988, 114-22.

Harrison, David and Pitre, John M. Computers in a teaching laboratory : Just another piece of apparatus. *Comput. Edn* 12 (2), 1988, 261-67.

Jacobsen, Ed. Microcomputers : Opportunities and challenges to reshape the content and method of teaching maths and science. *Prospects* 17 (3), 1987, 407-16.

Lauterbach, Roland and Frey, Karl. Educational software : Review and outlook. *Prospects*, 17 (3), 1987, 387-95.

Moreau, Dennis R and Dominick, Wayne D. A microcomputer-based interactive presentation development system. *Comput Edn* 12 (2), 1988, 327-37.

Shah, Anupama and Kaushal, Anjana. Impact of television on students. *J Indian Edn* 13 (5), 1988, 24-9.

Teer, Harold B and others. Peer taught microcomputer skills : An untapped resource for stretching the budget. *Comput Edn* 12 (2), 1988, 355-57.

Vamos, Tibor. Education and computers : The human priority. *Prospects* 17 (3), 1987, 349-53.

EDUCATIONAL EVALUATION

Archer, John and McCarthy, Barry. Personal biases in student assessment. *Ednl Res* 30 (2), 1988, 142-5.

Barnett, R.A. Institutions of higher education : Purposes and 'performance indicators'. *Oxford Rev Edn* 14 (1), 1988, 97-112.

Dhaliwal, Amar Singh. Are marks pertaining to different questions included in an achievement test and those pertain-

ing to different subjects of study additive? *Indian Ednl Rev* 23 (4), 1987, 20-8.

Gipps, Caroline. The debate over standards and the uses of testing. *British J Ednl Studies*. 36 (1), 1988, 21-36.

ECONOMICS OF EDUCATION

Balachander, K.K. Higher education : Need for a detailed strategy. *Mainstream* 26 (34), 1988, 15-17, 19.

Barnett, W. Steven and Escobar, Colette M. The economics of early educational intervention : A review. *Rev Ednl Res* 57 (4), 1987, 387-414.

Pasour, E.C. Financial support and freedom of inquiry in agricultural economics. *Minerva* 26 (1), 1988, 31-52.

VOCATIONAL EDUCATION

McCormick, Kevin. Vocationalism and the Japanese educational system. *Comp Edn* 24 (1), 1988, 37-51.

Rajendran, S. Work-oriented education. *J Indian Edn* 13(5), 1988, 14-9.

ADULT EDUCATION

Shah, Anupama and others. Making 'each one teach one' scheme a success. *Yojana* 32 (7), 1988, 19-21.

DISTANCE EDUCATION

Hawkrige, David. Distance education and the World Bank. *British J Ednl Tech* 19(2), 1988, 84-95.

COMPARATIVE & COUNTRY STUDIES

Carswell, John. What Robbins took for granted. *Oxford Rev Edn* 14 (1), 1988, 21-32.

Howell, D.A. The Hungarian education act of 1985 : A study in decentralisation. *Comp Edn* 24 (1), 1988, 125-136.

Poromesh Acharya. Is Macaulay still our guru? *Eco Pol Weekly* 23 (22), 1988, 1124-30.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities.

BIOLOGICAL SCIENCES

Microbiology

1. Pandya, Gagan Anantrai. *Gamma radiation effects on micro-organisms and its application in sewage sludge hygienisation.* Baroda.

2. Prabalad, A.K. *Impact of human activity on the heavy metal pollution in water profile, sediment and biota of an industrially polluted Husainsagar Lake, Hyderabad, India.* Osmania.

3. Venkateswara Rao, C. *Ecological studies of methanogens and methanogenesis in Lake Husainsagar and isolation and characterization of Methanobacterium formacicum and Methanosaeta mazei SV9.* Osmania,

Botany

1. Bhagavanulu, Avasarala. *Studies on nucleic acid analysis and DNA hybridization in some species of genus Cassia L.* Andhra.

2. Bichman, Ram Kanwar. *Morphological and cytogenetical studies in Solanum tuberosum ssp. andigena.* Kurukshetra.

3. Katiyar, Uma Shankar. *Studies on growth, yield and quality of forage sorghum varieties as affected by plant population and nitrogen levels.* Durgawati.

4. Leela Bai, D. *Cytoembryological studies in Cyperaceae-Caricoideae.* Bangalore. Dr. B.H.M. Nijalingappa, Department of Botany, Bangalore University, Bangalore.

5. Pahwa, Sarita. *Studies on some biochemical aspects of nitrogen fixation in a phototrophic bacterium.* Kurukshetra.

6. Sai Devi. *A study of physiology of the plant pathogens with reference to some species of Alternaria needs.* Osmania.

7. Satyavathi, M. *Chemotaxonomy of some Bigoniaceae.* Osmania.

8. Selvapandiyan, A. *In vitro selection of tobacco plants resistant to fusarium wilt.* Baroda.

9. Tripathi, Hari Har Sharan. *Studies on the production and activity of toxic metabolites by certain bacterial and fungal pathogen of Piper beetle L.* HS Gour. Prof. K.M. Vyas, Head, Department of Botany, Dr. Harisingh Gour Vishwavidyalaya Sagar.

10. Vijaya Kumari, N. *Studies on the utilisation of industrial wastes (distillery effluent and nitrate dust) for agricultural purposes : An optional method in the waste management system.* Osmania.

11. Vital Reddy, Gudimetla Pandu Ranga. *Cytogenetical and biochemical studies in some wild and cultivated species of Oryza.* Andhra.

Zoology

1. Bhargavi, G. Y. *Studies on some histochemical and biochemical aspects of the metacercaria of Euclinostomum heterostomum : A parasite of Channa Punctatus.* Osmania.

2. Deen Dayal, Vidya. *Studies on histochemical and histoenzymological aspects of the nematode parasite, Tanqua tiara (Linstow, 1879).* Osmania.

3. Derasari, Ketaki Jamubhai. *Early effect of androgen deprivation and administration on certain aspects of hepatic metabolic pattern in male albino rats, Rattus norvegicus Albinus.* Baroda.

4. Ibotombi Singh, N. *Structure and behaviour of meiotic prophase chromosomes in Indian Silkworms, Antheraea and Philosamia species.* Manipur. Dr. S.C. Kundu, Assoc. Prof., Department of Life Sciences, Manipur University, Imphal.

5. Jain, Rita. *Studies on the respiratory system of certain terrestrial insects.* Vikram. Dr. B. S. Bhatnagar, Department of Botany, Vikram University, Ujjain.

6. Kamal Jeet Kour. *Studies on the reproductive systems of certain Scarabaeid beetles.* Kurukshetra.

7. Kutha, K.N. *Studies on experimental Trawal fishing in Gandhi Nagar Reservoir, Mandaur District.* Vikram. Dr. K.S. Rao, Asst. Prof., Department of Botany, Vikram University, Ujjain.

8. Lukhoi Singh, Dinam. *Comparative histomorphology and certain aspects of physiology of the digestive tract of Odontoporus longicollis (Oliv) Coleoptera : Curculionidae.* Manipur. Dr. B. Prasad, Senior Fellow, Department of Life Sciences Manipur University, Imphal.

9. Mishra, Gitanjali. *Studies on changes in connective tissues following induced diabetes in lizards in relation to age.* Berhampur. Dr. H.N. Behera, Lecturer, Department of Zoology, Berhampur University, Berhampur.

10. Munal Singh, P. *Studies on aphid parasitoids. Hymenoptera : Aphidiidae of Manipur.* Manipur. Dr. T. Kameshwar Singh, Assoc. Prof., Department of Life Sciences, Manipur University, Imphal.

11. Narula, Archana. *Comparative studies on the taxonomic composition and population density of the soil arthropods of a forest stand and cropland.* Kurukshetra.

12. Prasad, Arti. *Efficacy of chitin synthesis inhibitor compounds against insect pests including histopathological and biochemical approach for mode of action.* Rajasthan. Dr. S. C. Saxena, Department of Zoology, University of Rajasthan, Jaipur.

13. Shankara Narayana Rao, N.G. *Studies on the growth of fry and fingerlings of selected carps fed on formulated fish foods.* Bangalore. Dr. K.M. Kadam, Prof., (Retd.), Department of Zoology, Bangalore University, Bangalore and Dr. K. V. Devaraj, Chief Scientific Officer, University of Agricultural Sciences, Hebbal Campus, Bangalore.

14. Sharif Uddin Ahmed. *An electrophoretic approach to biochemical systematics of animals with special reference to fish.* Manipur. Prof. H. Tombi Singh, Department of Life Sciences, Manipur University, Imphal.

Medical Sciences

1. Jayashree, R.S. *Status of monocyte activation in acute, re-infection and chronic P. knowlesi infections in rhesus monkeys.* PGI.

2. Kanwar, Kavita. *Biochemical and immunochemical studies with sensitive and drug resistant strains of mycobacteria* PGI.

3. Mallikarjuna Rao, N. *Protease inhibitors in tubers and their action on human enzymes.* Mangalore. Dr. T.N. Patrabhiraman, Prof. and Head, Department of Biochemistry, K.M.C. Manipal.

4. Pandhari, S. R. *Study of patterns of change occurring in the electrical activities of brain areas during conditioned pedal pressing for food reward.* Bangalore. Prof. T. Desiraju, Prof. and Head, Department of Neurophysiology, National Institute of Mental Health and Neuro Sciences, Bangalore.

5. Shailesh Kumar, M.V. *Study of effects of environmental neurotoxins on neurotransmitters and electrical activity of the developing brain.* Bangalore. Dr. T. Desiraju, Prof. and Head, Department of Neurophysiology, National Institute of Mental Health and Neuro Sciences, Bangalore.

6. Wadhawan, J.M. *Isolation : An experimental study of psychological and psychophysiological factors.* Bangalore. Dr. C.R. Mukundan, Assoc. Prof., Department of Clinical Psychology, National Institute of Mental Health and Neuro Science, Bangalore.

Agriculture

1. Ambapurkar, Krishna Madhukarrao. *Intercropping of important oilseeds and pulses in maize, Zea mays L. Var Deccan double hybrid under protective irrigation in kharif season.* Marathwada Agrl. Dr. S. V. Raikhelkar, Head, Department of Agronomy, Marathwada Agricultural University, Parbhani.

2. Arun Kumar. *Studies on incompatibility, flowering and fruit set in almond, Prunus dulcis Mill.* PAU.

3. Chahill, Bhagwant Singh. *Nutritional studies in kinnow mandarin.* PAU.

4. Jasdeep Singh. *Studies on population build-up of Earias insulana (Boisd.) and E. vittella (Fab.) on hirsutum and arboreum cotton.* PAU.

5. Koul, Brij Lal. *Evaluation of line x tester crosses in Bell pepper, Capsicum annuum L.* Y.S. Parmar. Dr. P.P. Sharma, Prof. and Head, Department of Vegetable Crops, College of Horticulture, Solan.

6. Umesh Kumar. *Studies on the temporal complementarity between maize, Zea mays Linn. Okra, Abelmoschus esculentus L. Moench and soybean, Glycine max L. Merr. in intercropping system under different fertility regimes.* HP

Krishi. Dr. O.P. Awasthi, Dean (Retd.), College of Agriculture, Palampur.

Veterinary Science

1. Jest Singh. *Studies on some physical and biochemical attributes of frozen buffalo semen.* HP Krishi. Dr. Y.C. Jain, College of Horticulture, Solan.

EDUCATION NEWS INDEX

A List of Select Articles and Editorials on Education from Newspapers received in the AIU Library during June, 1988.

EDUCATIONAL SOCIOLOGY

Amrik Singh. New deal for women. *The Hindustan Times*, 27 June '88.

Mojumdar, Modhumita. Education for equality. *The Statesman*, 15 June '88.

Natarajan, P. Tribal literacy: Problems and priorities. *The Hindu* 14 June '88.

EDUCATIONAL PLANNING

Kuldip Kishen. Accountability to make education work. *The Pioneer*, 22 June '88.

Mathur, V.S. Towards new education. *The Pioneer*, 17 June '88.

EDUCATIONAL ADMINISTRATION

Amrik Singh. Making colleges autonomous. *Amrita Bazar Patrika*, 14 June '88.

Chopra, Ashok. Education: The great divide. *The Hindustan Times*, 6 June '88.

CURRICULUM

Dasgupta, R.K. The state of our English studies. *Amrita Bazar Patrika*, 5 June '88.

Jacob, Kuruvila. The do's and don'ts in curriculum planning. *The Hindu*, 7 June '88.

Patra, Sadanand. Plea for a broad based system. *The Hindu*, 14 June '88.

Venugopal, N. Mathematics, making it more applicable. *The Hindu*, 7 June '88.

VOCATIONAL EDUCATION

Das, Madhuri. Management courses—the most sought after. *National Herald*, 14 June '88.

Raghavachari, S. Utility courses—where will they lead us? *The Hindu*, 21 June '88.

TEACHERS & TEACHING

Bhatti, S.S. A noble profession, this! *The Tribune*, 5 June '88.

Kuldip Kishen. Making education work. *The Indian Nation*, 2 June '88.

Saikia, Rajen. Poor leadership has let teachers down. *The Telegraph*, 19 June '88.

EDUCATIONAL RESEARCH

NEED FOR university—Industry interaction. *The Hindu*, 30 June '88

Pandian, S.R. What ails academic research? *The Hindu*, 7 June '88.

EDUCATIONAL TECHNOLOGY

Bastian, Samuel. How to become a good programmer. *The Economic Times*, 30 June '88.

Ranjit Singh. UGC Programmes: is anybody watching? *The Tribune*, 30 June '88.

EDUCATIONAL EVALUATION

Joseph, A and Mutthirulandi, Raja. Teacher evaluation: Boon or bane? *The Hindu*, 27 June '88.

Joshi, Navin Chandra. Reforming examination system. *National Herald*, 14 June '88.

Mathur, V.S. A fair plan for exam reforms. *The Tribune*, 19 June '88.

Sanghvi, Vijay. Spreading corruption. *The Hindustan Times*, 30 June '88.

Usmani, Shaheen. Profile of a good teacher. *The Hindu* 21 June '88.

ECONOMICS OF EDUCATION

Amrik Singh. Capitation Fee: Myth and reality. *The Hindustan Times*, 6 June '88.

Onkar Singh. State funding of universities. *National Herald*, 28 June '88.

THE PRICE OF education (ed) *Deccan Herald*, 9 June '88.

BOOKS & LIBRARIES

Kaula, P.N. Library legislation in U.P. *The Pioneer*, 22 June '88.

STUDENTS & STUDENT ACTIVITIES

Shamsuddin. Graduating to mediocrity. *The Indian Nation*, 27 June '88.

ADULT EDUCATION

Chowdhury, Satyabrata. Towards universalisation of education. *Amrita Bazar Patrika*, 14 June '88.

FACING UP to a massive challenge (ed) *The Hindu*, 30 June '88.

Venkatachary, R. Campaign to eradicate illiteracy. *The Economic Times*, 26 June '88.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Choudhary, Kameshwar. Higher education in India. *The Times of India*, 12 June '88.

TAB ON drop-outs (ed). *The Hindustan Times*, 28 June '88.

CLASSIFIED ADVERTISEMENTS

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REQUIRES REGISTRAR

Advertisement No. 3/Admn. 1/1988

Applications are invited from Indian nationals for the post of REGISTRAR in the scale of pay of Rs. 1500-60-1800-100-2000-125/2-2500 (likely to be revised to Rs. 4500-7300) plus usual allowances as admissible to the members of the staff in Central Universities.

This is a permanent post. But persons interested in coming to the University for short tenure of a minimum of three years may also apply.

Qualifications

- A Doctorate degree or research work an equally high standard.
- Good academic record with at least second class Master's degree and sustained intellectual interest.
- Proven ability and experience in administration management of an academic research institution with a depth of understanding of intellectual processes and perspectives of a University and its development.
- 10 years administrative experience or 15 years experience as Lecturer Reader of which at least 5 years as Reader.

General

Persons well-versed in modern management techniques may be preferred. Relaxation in any of the qualifications may be made in exceptional cases. It will be open to the University to consider the names of suitable candidates who may not have applied or those whose applications are received after the due date.

Applications on plain paper, giving full details of academic credentials and administrative skills, age, experience, present pay, scale of pay, and other details of the bio-data and names of three referees may be sent to the Registrar, Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067 latest by 1st August, 1988.

SAURASHTRA UNIVERSITY RAJKOT-360005

Applications in the prescribed forms are invited for the undermentioned posts for the Computer Centre, Application forms alongwith detailed requirement of qualifications, experience and other necessary details regarding these posts will be available from the Registrar, Saurashtra University, University Campus, Kalawad Road, Rajkot-360005 on sending a self-addressed envelope of the size 23x10 cms. with postage stamps worth Rs. 1-40 paise. Applications should reach this office on or before 30-7-1988 alongwith crossed Indian postal order worth Rs. 10/-. Qualifications and experience as mentioned in the details to be supplied with application form will be considered final. Age ordinarily not exceeding 45 years. The age, educational qualifications and experience may be relaxed in suitable cases.

No.	Name of Post	No. of Post	Pay Scales
1.	System Manager	1	3000-100-3500-125-4500
2.	System Engineer	1	3000-100-3500-125-4500

R.A. Desai
REGISTRAR

GUJARAT AGRICULTURAL UNIVERSITY SARDAR KRUSHINAGAR-385 506 DIST : BANASKANTHA

Advertisement No. 5 88.

Dated : 21-6-1988.

Applications on prescribed form are invited for the following posts in Gujarat Agricultural University. The candidates who fulfil the following qualifications and desire to apply may sent their application forms alongwith ten copies of authenticated bio-data to the Registrar, Gujarat Agricultural University, Sardar Krushinagar-385 506, Dist. Banaskantha.

Sr. No.	Name of the Post and Pay-Scale	Discipline	Qualifications required.
1	2	3	4
1.	Assistant Professor/ Assistant Research Scientist and its equivalent. Rs. 700-40-1100-50-1300- Assessment-50-1600 plus other allowances as per University rules. (Scale to be revised)	A. Agriculture Faculty Plant Physiology Plant Pathology Agril. Chemistry & Soil Science Plant Breeding Extension Education. Horticulture Entomology Agronomy B. Veterinary Faculty Vet. Anatomy	Essential 1. Second class Bachelor's degree in the concerned faculty. 2. Second class Master degree in the concerned field. 3. At least 2 years of experience with M.Sc. degree in the

1	2	3	4
		Vet. Surgery Vet. Clinic Vet. Pharmacology Vet. Gynaecology Vet. Bio-Chemistry Vet. Medicine Live Stock Production & Management Vet. Public Health & Food Hygiene Animal Genetics & Breeding Vet. Physiology Vet. Pathology Vet. Bacteriology Vet. Parasitology	teaching/research/ Extension Educa- tion. Period spent under Post-Gra- duate training except inservice Post-Graduate training will not be considered as experience.
		C. Agricultural Engi- neering Faculty Rural Engineering Soil & Water Engineering Mechanical Engineering Electronics Civil Engineering Electrical Engineering Agril. Process Engineering Farm Machinery and Power Engineering	4. Ph.D. degree will be preferable.
		D. Faculty of Basic Science Physics Agril. Statistics Mathematics Bio-Chemistry Agril. Economics Ornithology Microbiology Agril. Meteorology Livestock Economics & Marketing. Dairy Economics English Computer Science	5. Age : Below 55 years.
		E. Faculty of Home Science Foods and Nutrition Child Development Home Management Textile and Clothing Home Science Extension	
		F. Dairy Science Faculty Dairy Technology Dairy Engineering Dairy Chemistry Dairy Microbiology	
		G. Fisheries	
		H. Forestry and Agro-Forestry	

Note : Notwithstanding anything contained in the above rules relaxations in individual case in respect of degrees or class of degrees, experience and age etc. will be considered by the Board of Management on the recommendation of the Selection Committee for the concerned post of teacher.

Application forms and other terms and conditions can be had from the Registrar, Gujarat Agricultural University, Sardar Krushinagar—385506, District : Banaskantha, on cash payment of Rs. 2/- (Money Orders will not be accepted) or by sending crossed Indian Postal Order of equal value issued in favour of "Comptroller", Gujarat Agricultural University, Sardar Krushinagar, alongwith the self-addressed envelope (23 x 11 cms.) affixed with Rs. 2-20 paise postage stamps.

The candidates already in the service of this University have to apply through their respective officers in prescribed form with ten copies of authenticated bio-data without L.P.O. All candidates should send their application through proper channel. All candidates called for interview will have to attend the same at their own cost.

1. The last date for receiving applications complete in all respect is **31-8-1988**.
2. Incomplete applications will not be considered.
3. The University reserves their full rights to fill up or not to fill up any or all the posts and to give or not to give appointment to the candidates selected by Selection Committee.
4. Canvassing in any form will completely disqualify a candidate for employment under this University.
5. Selected candidates for above posts or category is transferable at any campus or centre of the University and between Education, Research and Extension activities Project and will have to resign from previous employment. They will be allotted to Campus Directors, Anand, Junagadh, Navsari and Sardar Krushinagar for appointment.

R.J. Patel
REGISTRAR

DEVI AHILYA GIRLS DEGREE COLLEGE

8/1, Ushaganj, Jaora Compound, Indore

Applications in the prescribed form are invited for "Lecturers in English and Commerce" so as to reach the undersigned on or before **18-7-88**.

Pay Scale 700-1600 plus D.A. decided by Governing Body. Application form together with details of qualifications, specialisation etc. can be obtained from the College office on payment of Rs. 5/- in person or by sending a crossed Indian Postal Order of Rs. 12/- payable to the Principal, Devi Ahilya Arts & Commerce College, Indore.

PRINCIPAL

REGIONAL ENGINEERING COLLEGE

ROURKELA-769008 (ORISSA)

Advertisement No. 1/88

Dated : 30.6.1988

Applications, in prescribed form, are invited for the following faculty positions :

I. Professors :—Scale : 1500-60-1800-100-2000-125/2-2500/- (Plus allowances).

Applied Electronics and Instrumentation Engineering (Instrumentation Engineering), Computer Science Engineering and Application (Management).

II. Assistant Professors :—Scale : 1200-50-1300-60-1900/- (Plus allowances).

Applied Electronics and Instrumentation Engineering (Electronics Instrumentation), Electrical Engineering (any specialisation), Mechanical Engineering (any specialisation), Computer Science Engineering and Application (Computer Science/Computer Engg.), Chemical Engg. (Process dynamics control and Instrumentation Reaction Engg. Fluid & Particle Mechanics), Metallurgical Engineering (Physical Metallurgy Mechanical Metallurgy).

III. Lecturers :—Scale : Rs. 700-40-1100-50-1600/- (Plus allowances).

Applied Electronics and Instrumentation Engineering, Civil Engineering, Mechanical Engineering, Metallurgical Engineering, Mining Engineering, Chemical Engineering (Any specialisation in corresponding discipline), Mathematics (Statistics, any other specialisation), Computer Science Engineering and Application (Computer Science/Computer Engineering Computer Application).

Qualifications and Experience

Professor/Assistant Professor/Lecturer

U.G.C./A.I.C.T.E. norms of qualification and experience as of University

level Post Graduate Engineering College standard.

For positions of Professorships experienced retired hands desiring to come under contract or persons serving in Government/Public Sector/Undertaking desiring to come under deputation may also apply through their employers.

Total monthly emoluments at the starting point as at present are : Professors Rs. 3,534/-; Assistant Professors: Rs. 3,148.-, Lecturers : Rs. 2,069/- . Higher initial pay in the scale is admissible to deserving candidates. Age of retirement is 60 years. Benefit of rented unfurnished accommodation as per availability, or house rent allowance for rented accommodation in case of non-availability in campus, C.P.F., Gratuity, Medical reimbursement, Dearness Allowance, L.T.C., Leave encashment, Group Insurance are admissible as per rules prevailing from time to time. Preference will be given to SC ST candidates who are otherwise considered qualified. Candidates abroad may apply on plain paper giving full bio-data.

For posts of Lecturers, first class degree holders in relevant branches of Engineering may also be considered for Lecturership who have to procure Master's Degree within 5 years.

Further details regarding qualifications, experiences, specialisations, service conditions etc. prescribed for the posts and application forms will be available from the undersigned on payment of Rs. 15/- in shape of crossed Bank Draft payable to "Principal, Regional Engineering College, Rourkela-769008", at the State Bank of India, R.E. College, Campus Branch enclosing a self-addressed envelope 23 cm x 10 cm in size, with postage stamp worth Rs. 1.80. The scales of pay are likely to be revised. Separate applications should be made if candidates apply for more than one post.

Last date of receipt of complete application is 30th July, 1988.

N.C. Mohanty
REGISTRAR

Institute of Social Studies

Institute of Social Studies is organising a half-day workshop during the 4th National Conference on Women's Studies to discuss issues in Documentation on Women's Studies in December, 1988. The main objective of the meeting would be to identify existing information and documentation centres on women studies and establishing a net work between these centres. ISST may consider providing travel allowance to some librarians or those involved in documentation to this meeting. For information please write to :

Suchitra Anant/Ramani Rao
Institute of Social Studies Trust,
5, Deen Dayal Upadhyay Marg,
SMM Theatre Crafts Building,
New Delhi-110 002
Tel : 3323850

University of Mysore
Institute of Correspondence Course and Continuing Education
MANASAGANGOTRI, MYSORE-570 006

Advt. No. : ICC & CE/ADMN. 1/1988-89

Dated : 9-5-1988

ADMISSION NOTIFICATION—1988-89

Applications are invited in the prescribed form from eligible candidates who wish to seek admission to B.A., B. Com., M.A., Degree Courses, and Diploma & Certificate Courses of Mysore University during the year 1988-89, under the Open University and Regular Schemes.

A. Open University Scheme : (for B.A., B.Com. & M.A. degree courses only)

(a) **Eligibility for Admission :**

(i) **Age limit :**

(a) 21 years (as on 1-7-88) for B.A., B.Com. degree courses.

(b) 25 years (as on 1-7-88) for M.A. degree courses.

(ii) **Pre-Admission Entrance Test :**

All candidates who fulfil the above age requirements are required to qualify themselves by taking an **Entrance Test** prescribed by the University to be eligible for admission to the above Degree Courses under Open University Scheme.

(2) **Last Date :**

Last date for submission of Application form for Entrance Test along with the Application for Admission is **23-7-1988**.

(3) **Date of Entrance Test :**

The Entrance Test will be held during July/August 1988.

(4) **Test Centres :**

Following are the provisional Centres where Entrance Test will be held :

—All District Headquarters in Karnataka State.

—Bombay, Calcutta, Delhi, Goa.

—Different Centres in Andhra Pradesh, Kerala and Tamilnadu.

B. Regular Scheme : (for B.A., B.Com., M.A. Diploma and Certificate Courses)

(1) **Eligibility for Admission :**

(i) **B.A., B. Com. :** A pass in PUC or an equivalent examination.

(ii) **M.A. :** Graduates who have studied Kannada/English/Sanskrit/Hindi/Urdu/History/Sociology/Political Science are eligible to apply for M.A. degree course in the respective subject.

(iii) **Other Courses :** (a) Post-graduate Diploma in English, (b) Diploma in Kannada, (c) Diploma in Sanskrit, (d) Diploma in Journalism; and (e) Certificate Course in Kannada for Non-Kannada speakers.

NOTE : No age restriction and No Entrance Test for Regular Scheme candidates.

(2) **Last Date :**

Last date for submission of application for Admission for all courses under Regular Scheme—

Without Penal Fee

3-8-1988

With Penal Fee of Rs. 10/-

17-8-1988

C. Prospectus and Application Forms :

Prospectus and Application forms may be obtained from the Director, Institute of Correspondence Course and Continuing Education, Manasagangotri, Mysore-570 006, on payment of Rs. 20-00 either by **Cash** or in the form of **Crossed Bank Draft** drawn on any Scheduled Bank in favour of the Director, ICC & CE, Mysore University payable at Mysore. Postal Orders, Money Orders, Cheques etc., will not be accepted.

For further details in this regard please refer to the Prospectus-1988-89.

J.S. Parashiva Murthy
DIRECTOR, ICC & CE

इन्दिरा गाँधी राष्ट्रीय मुक्त विश्वविद्यालय INDIRA GANDHI NATIONAL OPEN UNIVERSITY

YMCA Cultural Centre, 1 Jai Singh Road, New Delhi-110001

Applications are invited from Indian Citizens for filling up the following posts in the Pay Scales indicated plus allowances as admissible under the University rules.

1. READER/DEPUTY DIRECTOR

Scale of Pay : 1200-50-1300-60-1900 (pre-revised)

Essential Qualifications

1. M.A. in Hindi—First Class or High Second Class.
2. Ph.D. in Hindi with more than 10 years experience in teaching/translation of which 5 years experience should be in the pay scale of Rs. 700-1300 (pre-revised).
3. Preference can be given to the candidates having M.A. Degree in English or in one of the subjects of Social Sciences or M.Sc. in a science subject or having some inter-disciplinary knowledge training.

Desirable

1. Post-graduate Diploma in Translation

2. TRANSLATION OFFICERS

Scale of Pay : 2000-60-2300-EB-75-3200-100-3500

Essential Qualifications

1. Master's Degree of a recognised University in Hindi or English with the other language as a main subject at the Degree level.

OR

Master's Degree of a recognised University in any subject with Hindi and English as main subjects at the Degree level.

OR

Master's Degree of a recognised University in any subject with Hindi or English medium and the other language as main subject at the Degree level.

2. Experience of five years of translation work in an organisation (OR) experience of terminological work of five years in an institution (OR) independent translation work of equivalent nature.

Desirable

1. A Certificate or Diploma in Translation.
2. Sound knowledge of the other language.

3. Experience of supervising translation work of translators for about two years.

3. SENIOR TRANSLATORS

Scale of Pay : 1640-60-2600-EB-2900

Essential Qualifications

1. Master's Degree of a recognised University in Hindi or English with the other language as a main subject at the Degree level.

OR

Master's Degree of a recognised University in any subject with Hindi or English medium and other language as main subject at the degree level.

2. Experience of three years of translation work in an Organisation (OR) experience of terminological work of 3 years in an Institution (OR) independent translation work of equivalent nature.

Desirable Qualifications

A Certificate or Diploma in Translation

4. JUNIOR TRANSLATORS

Scale of Pay : 1400-40-1800-EB-50-2300

Essential Qualifications

Master's Degree of a recognised University in Hindi or English with other language as a main subject at the Degree level.

OR

Master's Degree of a recognised University in any subject with Hindi and English as main subject at the Degree level.

OR

Master's Degree of a recognised University in any subject with Hindi or English medium and the other language as a main subject at the Degree level.

Desirable Qualifications

1. A Certificate or Diploma in Translation from a recognised University or Institution.
2. Experience of translation work of two years in an organisation (OR) independent translation work.

General Conditions

15% and 7½% of the total number of vacancies of Translation Officer, Jr. Translator, Sr. Translator are reserved for Scheduled Castes/Scheduled Tribe candidates respectively. If no suitable candidate is found from SC/ST categories, the posts will be treated as un-reserved and selection will be made from general candidates.

Candidates called for interview from outside Delhi will be paid single second class railway fare to and fro by the shortest route from their place of residence/work.

How to Apply

Application on plain paper neatly typed or handwritten giving complete bio-data and comprising details such as Post applied for, Scale of Pay, Advertisement No. and Date, Name, Father's Name, Date of Birth & Age, Permanent Address, Address for Communication, whether belonging to SC/ST/Ex-serviceman/PH, Educational/Technical Qualifications, Details of Training if any, Experience, Designation, Name of Organisation and Nature of Duties (in brief) and Salary drawn and affixing the signature of the applicant together with attested copies of educational/technical qualification, proof of date of birth, certificate to the effect whether belonging to SC/ST (wherever applicable), experience etc. should be addressed to the Registrar, Indira Gandhi National Open University, YMCA Cultural Centre, 1 Jai Singh Road, New Delhi-110 001. One copy of recent passport size photograph (duly attested) must be sent along with the application.

Application along with all relevant particulars duly furnished should reach latest by Monday, 1st August 1988.

Incomplete applications and those received after the prescribed date will not be considered and no correspondence thereon will be entertained.

In case an applicant wishes to apply for more than one post separate application for each post should be sent. Canvassing of any sort would disqualify candidature.

PLEASE SUPERSCRIBE THE NAME OF POST AND POST NUMBER ON TOP OF THE ENVELOPE AS WELL AS ON THE APPLICATION.

The University reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant

Sanjay Gandhi Post Graduate Institute of Medical Sciences**Post Box No : 375, Rae Bareilly Road, Lucknow-226 001****REQUIRES****PROFESSORS IN FOLLOWING SPECIALITIES****Advertisement No. : 31/88****Last Date : 08/08/1988.****SPECIALITY**

- | | | |
|-------------------------------|-----------------------------------|---------------------------|
| 1. ANAESTHESIOLOGY | 2. CARDIOLOGY | 3. CARDIOVASCULAR SURGERY |
| 4. ENDOCRINOLOGY
(Medical) | 5. GASTROENTEROLOGY
(Surgical) | 6. NEUROLOGY |
| 7. NEPHROLOGY | 8. RADIOLOGY | 9. TRANSFUSION MEDICINE |
| 10. ENDOCRINE SURGERY. | 11. CLINICAL MICRO-
BIOLOGY | |

Pay-Scale (Pre-revised)**Age Ordinarily
not more than****Experience**

Rs. 2500-100-3200/-

50 yrs.

10 Yrs. (out of which 5 Yrs. should be of
Reader/Associate Professor).

Dearness and other allowances will be paid as per Institute rules. Pay Scales admissible at present are at par with those at AIIMS, New Delhi.

Qualification and Experience

1. A postgraduate qualification e.g. M.D./M.S., or a recognised qualification equivalent thereto, in parent branch of super speciality.
2. A qualification in super-speciality such as D.M./M.Ch. or a recognised qualification equivalent thereto. For very senior professional, who do not possess formal D.M./M.Ch. qualifications, a recognised training/experience in the superspeciality of at least 5 years may be considered.
3. Teaching and/or research experience after prescribed postgraduate qualification in parent branch of the superspeciality of at least 10 years (as specified above).

General Conditions

Pension/Gratuity and other benefits as per rules of the Institute. Additional increments and relaxation in age may be considered in deserving cases. Applications on plain paper should reach the office of the undersigned latest by **8th August, 1988**. The applications of overseas candidates may reach in 6 weeks of this advertisement. Persons in employment should send their applications through proper channel. Advance copy may be sent but interview letters will not be issued without prior clearance of the current employers.

Please mention Advt. No. and the speciality on top of application. Separate applications should be sent for each speciality.

Application Should Include

1. Qualifications with year of passing and marks.
2. Details of post MD/MS/Employment experience.
3. List of publications.
4. Name of 3 referees who are personally familiar with the work of the candidate: and
5. Reprints of five best papers.

The Director reserves the right to reject any or all applications without assigning any reasons thereof. Incomplete applications are liable to be rejected.

N.B. Similar revised Pay Scales will be admissible from the date of revision at AIIMS, New Delhi.

SUPERCAT

DIRECTOR